BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, NOVEMBER 2nd, 1935

Address to York Medical Society

ON

MEDICAL SCIENCE AND SOCIAL PROGRESS

BY

LORD DAWSON OF PENN, P.C., G.C.V.O., M.D.

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON

In its pursuit of knowledge as such medicine has no concern for aught else but that pursuit. On the other hand, in the applications of that knowledge it has contacts with an increasing range of sciences and human activities. It is imperfectly realized even now how vast was the change when the medical profession entered the field of preventive medicine. Its responsibilities became not only enlarged but different, and are now concerned in composing the ills not only of individuals but of communities, and not only after but before they have happened. Two examples: if diphtheria breaks out in a school those who are either vulnerable or dangerous can be determined by Schick-testing and throat swabbing, and thus by appropriate treatment an epidemic can be stayed. Again, industrial medicine has long been concerned to prevent by rule and antidote diseases incidental to manufacturing processes. It is now also concerned to study the aptitude of workers for their work, so that round pegs may not go into square holes, and the stresses and strains which belong to specialization in industry, and thus has to extend its vision into the realms of mind and temperament.

A vast fabric has grown up, partly medical, partly economic, for protecting and promoting the welfare of the individual from the time of birth to a lengthening old age. The community cares for expectant mothers, for infants and for school children, who are both fed and educated, and there are services concerned with health, unemployment, widowhood, and old age, to mention but a few examples of this wide embracement of nurture. It is well from time to time to inquire how far this policy bodes well for the future—whether in the desire to help our fellow citizens to-day we are unwittingly damaging the citizens of to-morrow.

Nature's Method of Selection

In a primitive society the law of natural selection operated, and, speaking generally, the strong survived and the weak were eliminated. As society has developed, the sway of natural selection has lessened. To-day the progress of medical science, the qualities of justice and mercy, and the organized efforts of the community are bringing it to naught. And so the "unfit" are preserved. Nature's method of securing quality of population involved a high death rate, as well as a high birth rate. In this way there was a wide though rough selection. If we displace nature's method of a high death rate we must secure quality of population in another way.

We hear much of economic "planning" to secure the greater welfare of the people. What will this avail unless we give a like attention to "planning" for a healthy race? In fact, the fall in the death rate of infants between 1870 and 1934 from 156 to 60 and of children under 5 from 68 to 18 per 1,000 resulted from the quickening of the public conscience and growing medical knowledge. It represented a higher standard of social conduct wholly commendable, and contrasted with the days when deaths of children were regarded as inevitable and even a relief, as when a patient in hospital, on being asked how many children she had had, replied, "Had twelve, buried six."

Reasons for Birth Control

Meanwhile the collateral effects of this big fall in the death rate received but scanty attention. Biology was forgotten. Yet it is now obvious that the former level of the birth rate could not be maintained with such falling in the death rate, because families would thus be too large for maintenance. It is one thing to have six children survive out of twelve births and another to have ten survive. This is the economic reason for the coming of birth control.

There are further biological reasons worth considering. During the procreative part of her life woman has twelve sex cycles a year, and has therefore an oft-recurring proneness to conception. Side by side with this fact place another. From a period antedating history the love of man and woman has involved periodic physical expression. Health and harmony are promoted thereby. Indeed, the organization of the home and monogamy itself envisage this recurring physical expression, unless the latter is inhibited by the unfitness of either party. In former days this periodic physical expression resulted in high conception rates (that is, live births plus miscarriages), the results of the number of births being mitigated by high death rates. With the steady and considerable fall in the death rates something had to happen: hence contraception. The only alternative was organized abstention, a biological and social revolution as impracticable as it would have been harmful.

What does this falling death rate portend? Surely that, however necessary, however right as part of a social policy of betterment, it involves the preservation not only of "good lives," but also of biologically "bad lives," and the latter, apart from their liability to become an economic burden, yield a high proportion of bad breeders

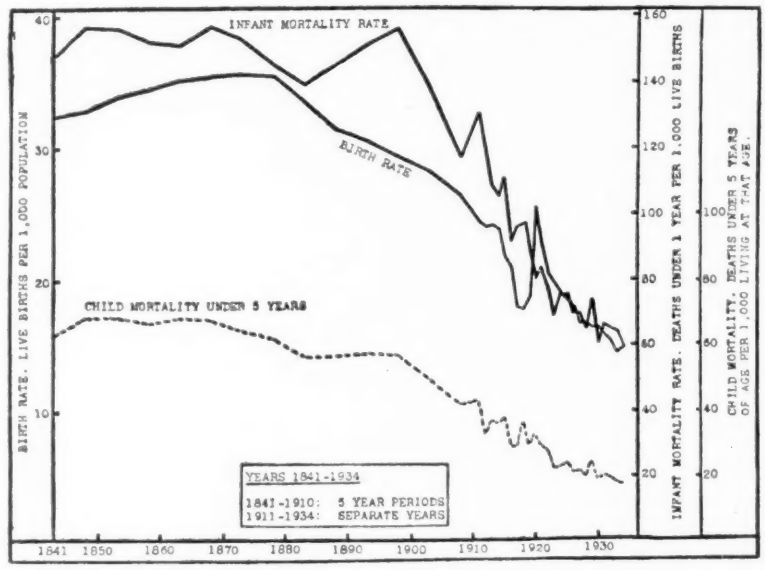
and inefficient parents. Sir George Newman says: "We must face the fact that the enormous reduction in infant mortality has led to increased longevity of a certain number of children who may ultimately prove to be 'unfit' both physically and mentally." Quality of the stock—the promotion of the good and the elimination of the bad—calls for closer attention, and with a low birth rate is of transcendent importance. According to Dr. F. H. Spencer, there were six million children in the elementary schools in 1913, there will be five million in 1937, and, if there is no change in the school age, four million in 1948.

Planning for the Unborn

But while there is readiness to discuss and practise "planning" in the sphere of economics, industry, and social service in order to secure the welfare of those now living, there is a shyness—even a shirking—towards the study and determination of the conditions which will produce high quality of children yet unborn. In stressing the importance of environment, the potency of the inborn factor is being forgotten. Yet the strength of hereditary qualities and defects is so well known as to need no enforcement.

This leaving of biological problems in the shade (it is to be noted in a recent work by many distinguished authors: *The Next Five Years*) is unfortunate. The facts compel our attention. Regarding the unfit there come to mind forms of physical defectiveness and disease, mental deficiency, mental disease, and inveterate delinquency. Apart from the hereditary taint which these sometimes carry,* such people are undesirable—nay, damaging—as parents for the future generation. Though it is neither desirable nor practicable to interfere with choice as the basis of human mating, we should at least control the propagation of unfit progeny. In this connexion the problem of mental deficiency looms large, because of the numbers of its victims (and they are increasing), the difficulty of its control, and the unfruitful expenditure it involves. In 1929 there were 300,000 certifiable mental defectives in England and Wales. To say that 75 per cent. of these were in the community without effective guidance of their lives is a conservative statement. Yet the cost of the mental deficiency service rose from £12 to £36 (round figures) per thousand of the population from 1920 to 1930.

A Board of Education report states: "We spend something like six times more money in the residential upbringing of the mentally defective child than on the upbringing of the normal child in the elementary school." Yet the results are indifferent and disappointing. Training cannot raise appreciably and permanently the standard of intelligence in the defective. Nurture needs to have greater regard for biological facts. "For of thorns men do not gather figs."


INFANT MORTALITY RATE
BIRTH RATE
CHILD MORTALITY UNDER 5 YEARS
BIRTH RATE. LIVE BIRTHS PER 1,000 POPULATION
INFANT MORTALITY RATE. DEATHS UNDER 1 YEAR PER 1,000 LIVE BIRTHS
CHILD MORTALITY. DEATHS UNDER 5 YEARS OF AGE PER 1,000 LIVING AT THAT AGE.
YEARS 1841-1934
1841-1910: 5 YEAR PERIODS
1911-1934: SEPARATE YEARS
1841 1850 1860 1870 1880 1890 1900 1910 1920 1930

Methods of Control

Civilization having in large measure nullified nature's method of eliminating the unfit needs to replace those methods by social determination, by control of environment and inheritance—namely, (1) by methods of nurture to build up fit citizens *having regard to their biological capacities*; (2) by means whereby the "unfit" can prevent damage to the community by their production of bad stock and bad homes.

To consider the first of these, quality of race: the rearing of the best is an outstanding purpose of constructive statesmanship, and so it is that youth calls for our chief effort. For the promotion of fitness during school age two measures at the outset stand forth: efficient nutrition, and physical education without prejudice but rather basic to training of character and mind.

Sound Nutrition

Nutrition is now receiving earnest attention, and the pursuit of dietetics is a recognized calling. A missionary campaign throughout the length and breadth of the land to teach housewives the values of essential foodstuffs and, not less important, knowledge of their purchase and cooking, would be a vast influence for good. The right nourishment of the young body is of such moment that the assumption by the State of an adjunctive responsibility for the feeding of children becomes justified. It is so important to secure increased consumption of milk and dairy produce and vegetables that sound planning envisages not only control of prices, but, in the case of children and expectant and nursing mothers, subsidizing the consumer by grants of milk, free or at low cost.

Physical Education

Physical education should be a prominent, if not the first, item in any school curriculum. It produces well-formed resilient bodies and responsive minds, and prevents defects of frame which depreciate vigour and pride of fitness. Is it not obvious that sound nutrition and trained development of body are the foundation stones on which effective education of the mind should be built? Leading educationists like Dr. Cyril Norwood and Sir Michael Sadler support this view. And why is it necessary to educate the mind and not educate the body? Watch a parade of Territorials or a group of hikers and you will see defects of frame, handicapping to the owners, which could have been avoided by a proper physical education.

This is neither fair nor wise. What wonder, for no elementary school in London has a gymnasium, so that adequate physical education is not possible, whereas in Denmark and other countries every school has one at least. Inquiry would show that a large number of our elementary schools need reconstructing in both fabric and equipment. Are we making the best of our wonderful

* In some forms of disease there is an expectancy that one-third or more of the offspring will be affected.

British stock? Having thwarted nature's way of securing the fit we must plan to build up the nation's youth or expect to deteriorate. Let me repeat: six million children in 1913 will become five million in 1937. As we have a smaller assortment we depend on the building of quality. And the teacher of physical education, though specially trained, should not be limited thereto. Not only is it good for him or her to have contact with body and mind, but physical education is less suited to the second half of the teacher's career.

Provision for games—play centres—which will be furthered by the Prince of Wales's excellent Jubilee Fund, are likewise important, and games are distinct from physical education in that they are *outside* school hours, involve self-government, and allow for individual choice. Under our excellent services of teachers and school doctors children are at certain stages passed in review, so that the inefficients are separated for rudimentary training while the normal children pass on. The extensions of school age will surely be limited to rationally selected children. By the foregoing measures an aristocracy of fit youth would result, would itself prosper, would be likely to marry within its group, and produce a rich proportion of fit children and a high level of family environment.

Further, to youth, unemployment does serious damage to quality, especially of mind and character. If with the specialization of industry some measure of unemployment is likely to be a lasting feature of the modern State, could not the unemployment allowances granted to the young be compulsorily linked up with such institutional provision as would furnish occupation and training of body and mind when wages for work are not available? Environment should be favourable enough to enable the individual to struggle with reasonable chance of success, but not so favourable as to minimize the need for struggle. The former favours the survival of the fit, the latter of the unfit.

Care of the Subnormal

Next to consider subnormal children, that large number of deficients of varying grades able to live in the community. These should be classified according to their fundamental capacities, having in mind their welfare but also the welfare of the community of to-day and to-morrow. To raise a (mental) deficient by specialized institutional training to a higher efficiency and sensibility, however well intentioned, is of doubtful kindness to him and of disservice to future generations. If retained within the institution, would not a simple kindly shelter more in keeping with his fundamental incapacity bring a greater content without a wasteful expenditure of money on useless forms of education? If set free in society, with its competitive struggles, aspirations aroused come to naught, performance fails, and the victim gravitates into the "social failure" group, marries within that group, and has children ill starred from birth onwards. And so the grave problem of the unfit becomes aggravated with the years. Of children born of mentally defective parents nearly half will be subnormal.

Sterilization

I pass to consider the second heading: means whereby the unfit can prevent damage to the community by their production of bad stock and by bad homes. Sterilization is such an endeavour. Its purpose would be to prevent certain of the unfit from propagating, because either they transmit unfitness to their offspring or they are parents so unworthy as to be unable to give their children a fair chance. It is our aim to prevent disease and disability in our own generation; why should we not aim to prevent them in the generations to follow? Sterilization would be a form of preventive treatment in the interests of the race. It is hardly necessary to remind this audience that sterilization imposes no change in sex life. On the other hand, for the suitable cases it brings relief because it guards them from responsibilities for which they are unsuited. It is a branch of therapy comparable to preventive inoculation; its accomplishment involves in trained hands a simple procedure, and it has no ill results on health. Individuals to be considered for this treatment would be limited to those within the sex-active period of life, and as far as mental deficiency is concerned to those outside institutional provision.

Mechanism of Inheritance

To form an opinion as to the effectiveness of sterilization it is necessary briefly to consider the mechanism of inheritance. The ways and means of inheritance were first unfolded by the genius of Mendel, but they obtained little notice for many years until they were rediscovered by De Vries in 1900. Since then, discovery has been extending, certain conclusions are assured, and those which are elementary to my theme I will make bold to bring before you in brief terms.

A new life starts as a single cell within which is a single nucleus. This nucleus contains numerous minute particles which at the pertinent time may be represented diagrammatically as strings of beads. The beads are known as genes and the strings as chromosomes. Each gene is distinctive in substance and function, and has responsibility for specific characteristics of body or mind, and further has its allotted place in the string or chromosome. If any gene is damaged the corresponding characteristic in the owner will be affected. With fertilization the egg cell contains two strings of genes, one from each parent, genes of corresponding roles being side by side. Each string would *alone* produce an individual of a particular pattern. The pattern of characteristics, bodily and mental, in fact produced—that is, the new individual—is the result (the blend) of the influences of the corresponding *pairs* of genes (paternal and maternal); and these genes will be present in all the cells which result from the division of the original germ cell.

The genes in the two strings or chromosomes opposite each other constitute pairs, and each gene of a pair has concern with the same attribute of body or mind—for example, the shape of the nose, the colour of the eyes, the quality of intelligence—features of bodily and mental character. Though the genes in a pair have the same function, they do not possess the same influence; the maternal gene of the pair may make for defective intelligence and the paternal for good intelligence. Another gene may represent blue eyes, say of the mother, and the corresponding paternal gene stand for brown eyes. Here is an interesting fact: should one gene of a pair be normal and the other defective, in the child the function is normal—the characteristics follow the superior parent. When the normal gene of the pair dominates the position the resulting characteristic in the child is called "dominant," whereas the evil though hidden influence of the defective gene is called "recessive." With dominant and recessive genes equal in numbers progeny will show the dominant characters three times as often as the recessive ones. For the child to be defective in some particular of mind or body *both* genes of the corresponding pair must be defective. The malign influence must be double-barrelled. If only one gene is defective and the other gene of the pair normal, the child is normal, though it is in that respect a "carrier" of a defective gene.

These diagrams show possibilities.

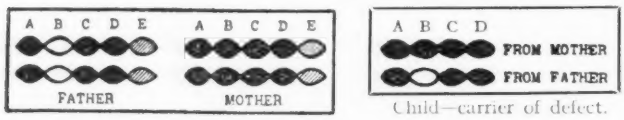


FIG. 1.

If both genes B are damaged in the father he is personally defective. If the mother shows no such damaged genes B the child, taking one chromosome from each parent, will itself be normal, but will be a carrier of defect and a potential source of danger when its time for propagation arrives (Fig. 1).

If, however, the mother has one of her B genes damaged there are two possibilities: the child may be a carrier as above if the mother's normal gene B is the adjunctive ; but if her damaged gene B joins with either of the father's genes B the result will be a pair of damaged B, and the child will itself be defective (Fig. 2).

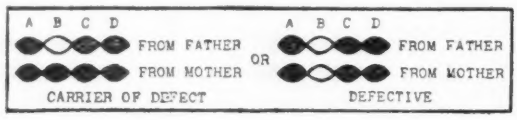


FIG. 2.

This brief exposition of the genes received from parents and passed to progeny, as the machinery of heredity, is, I hope, clear, but it does not pretend to be complete. In the formation of an individual the numerous genes are not watertight in their functions ; each characteristic feature is the result of the interaction of many genes. The final make-up of the organism is the result of heredity and environment in conjunction, nor can either be excluded from the planning needed to secure a race of high quality. It must not be forgotten that at birth heredity has had nine months' start before environment can have much say. During growth from fertilized egg to newborn babe the characters of this individual are laid down, and the multiple of mere weight is 300 million.

Carriers and the Transmission of Mental Deficiency

If one considers hereditary bodily or mental defects—for example, deformed fingers, certain forms of blindness, deafness, chorea, epilepsy, and mental deficiency—in the light of the foregoing brief statement, it becomes apparent (let us exemplify by mental deficiency) that with both genes of the pair damaged the individual is not only personally defective, but will be very prone to transmit mental defect to succeeding generations. With only one gene of the pair damaged the owner will not be personally defective, but will be a carrier of mental defect, which will remain submerged in the strain until there is future matching with a like carrier, when a "full-blown" mentally deficient descendant will appear. There is no means of detecting carriers, who are many times more numerous than actual defectives, and no thinking person supposes that sterilization would touch this part of the problem. It is not, however, an unreasonable hope that some day means for detecting "carriers" may be discovered.

On the other hand, mental defectives are a demonstrable danger, and especially those suffering from milder degrees of deficiency, who are able to live in the community. not only are they unfit to rear children, but if they do perpetuate their strain more mental deficients will be the result. An example will make this clear. A woman's father and mother were within the normal, but they must have been carriers, for the paternal grandfather was feeble-minded, two great-uncles were insane, and a maternal uncle was epileptic. The woman had two illegitimate children, both of whom died of convulsions. She then had fourteen children born in wedlock ; of these, three died, nine were mental defectives, and one son and one daughter appeared normal, but were probably carriers. How long would it be before 1,000 defectives resulted from this strain? This woman was not incompetent to look after her daily needs. If she had been segregated to prevent further procreation that would have been a deprivation of individual liberty greater than that involved by sterilization and at greater cost to the State.

But this vitiation of the stock is accentuated by the fact that defectives tend to sink to a low economic stratum, where life's varied unfortunates—physical, mental, and moral—gather together ; marriage occurs within the group, and a host of inferior children are born, and become foci of deterioration. As quality of race is an essential condition of our social progress, even of our survival, we cannot afford to have these vicious strains breeding in our midst, nor must we forget the unkindness, I almost said the cruelty, to the children born. What chance have they to make good? In days past this racial situation was helped by a high mortality among these inferior children, but this is much less and decreasingly so now.

Sterilization in Law

Sterilization would be advised, as other forms of treatment, with a sense of responsibility and with suasion. The advice would be accepted, not (with possible exceptions) imposed. Voluntary sterilization would be the better way—the advantages of the treatment would spread from the beneficiaries to their like and kind. Experience shows that there are no after-regrets, and that relief is brought to suffering people, who are thereby helped to be better citizens. Sterilization is a restraint on liberty to procreate, but the law restrains liberty in matters of communal health, and when parents are ignorantly obstructive public medical services can act forcefully in the interests of children. By similar reasoning, why should not future generations be protected? This leads to the question of co-operation between legal and medical procedures. In recurring delinquency, especially if entangled with mental defectiveness, sterilization would be a protective measure comparable to a sentence of "preventive detention," but with the advantage that when out of prison propagation by these undesirables would not take place.

Other cases over which the two professions need to come together are certain sexual offences and sex perversion, for responsibility in many of these offences is only partial, and mere punishment can be futile and even unjust. Of the many sexual offenders who engage the attention of the courts there are those who are recurring and inveterate and pathological—for example, against children—though in other respects sane members of society. These people are troublous and damaging to the community. During the past five years Danish law has permitted these individuals to be treated by castration. In fifty cases studied, castration has either removed desire *in toto* or removed the morbid and criminal tendencies. This is an example of preventive treatment only with that extending outlook which should come as knowledge grows ; and knowledge has increased considerably since these matters were in the minds of our law makers. Would it not be well if the professions of law and medicine conferred over these problems? It will be well here to note that a Departmental Committee of eminence has reported unanimously in favour of voluntary sterilization, and this report has the approval of the medical profession as represented by the two Royal Colleges.

Further, distinguished men outside medicine give it their support, including leaders in the Anglican and Free Churches.

As concerns sterilization: its practice is not new; it is rather that this country lags behind. It has been practised in Switzerland for nearly fifty years, and in California and certain other States for a long period. It is now recognized in Denmark, Sweden, Norway, Finland, and Germany as a means of preventing hereditary, physical, and mental defects from damaging the stock and doing injustice to future generations. The consent of the patient is needed. Explanation and, if need be, persuasion are employed, but not compulsion (except in a few scheduled exceptions). In California and Germany the law gives the right to compulsion, but in neither country is it put into force. In any legislation a "contracting-out" clause to meet the case of any patient whose religious convictions are against sterilization would be just and wise.

Administration would not be difficult. In outline it would involve a stage of investigation of the patient and the family records by two doctors, one of whom would be an approved specialist, followed by a stage of adjudication by a body, say, of two doctors and one jurist, leading to approval or disapproval of the application.

Since proposals concerning sterilization are but a particular aspect of preventive medicine, their study and presentation are in the first instance the responsibility of the medical profession.

This present-day chapter in our evolution—political, economic, and social—is set on a wider stage than its predecessors, because mechanical invention has made the countries of the world one, if not akin. Its outstanding feature is that organized constructive effort seeks more than hitherto to direct man's progress. Such effort can succeed only if it is comprehensive and has regard not only to environment but to the quality of the man himself as determined before as well as after birth.

Medical science learns daily the lesson that for collectivism, however good, it is thus far and no further. With environment sound, it is the individual man, what he inherits, what he becomes, how he overcomes, that has the first and last words. Each man has his own mould in health and illness. Finally, medical science teaches that social progress depends on regard for the narrow way of knowledge, reason, and reasonableness. Please hold that road and to the exclusion of all others, for along it lies the continued greatness of England.

R. Hansen and W. Langer (*Klin. Woch.*, August 17th, 1935, p. 1173) have examined the sense of taste in pregnant and non-pregnant women. The four sensations of taste—"sweet, sour, salt, and bitter"—were elicited by standard solutions of 40 per cent. cane sugar, 1/2 per cent. tartaric acid, 10 per cent. sodium chloride, and 0.05 per cent. quinine respectively. A number of known dilutions were prepared. The patients were instructed to wash out the mouth with 10 c.cm. of each dilution for twenty seconds, the mouth being rinsed with water between each test. Ten c.cm. of the concentrated solution was followed by equal quantities of diluted solutions until the specific taste could be no longer recognized. The solutions all had a temperature of 20° C. The threshold of each taste sensation was noted in grams. Comparisons with controls of non-pregnant women showed that during pregnancy the sense of taste is appreciably lowered. The thresholds for sweet, sour, salt, and bitter were raised by 35, 89, 114, and 60 per cent. respectively. The authors were able to endorse Kehrer's findings that 55 per cent. of pregnant women have unusual "cravings" and that 35 per cent. craved for sour and only 6 per cent. for sweet things. Changes in sensation of taste are not due to local changes in the papillae of the tongue but to the influence of pregnancy on the whole central nervous system.

MANIFESTATIONS OF NASAL ALLERGY: THEIR DIAGNOSIS AND TREATMENT*

BY

HUBERT M. JAY, M.B., B.S., F.R.A.C.S.

HONORARY AURAL SURGEON, ADELAIDE HOSPITAL

I have long felt that allergy has not received the attention it deserves, though, admittedly, the last few years have seen the awakening of some interest in the nasal manifestations of allergy.

Diagnostic Difficulties

The correct diagnosis of allergy from nasal symptoms calls for vigilance, and necessitates that the possibility of its presence should never be allowed to recede into the background of diagnostic consideration. We should do well to remember that the typical picture of a pale, boggy mucosa does not, as it were, cover the whole canvas. True, it occupies a central position, but grouped around it are other pictures, the recognition of which must become such a part of our art that, without glancing at a bottom corner of the canvas, we may say, "Here is the work of our old enemy allergy." It is in the recognition of these less obvious details that I would stress the value of an accurate history—the sheet anchor of our diagnosis in this affection. We must recognize three types (at least). When a patient comes to us saying, "I have many colds, in fact I am rarely without one," let us examine the accuracy of this statement very closely before accepting it. In nine cases out of ten it will be found that these "colds" are the sneezing attacks of hay fever. Another patient will say, "I suffer dreadfully from catarrh": all these patients label their affection as "catarrh." The third type is the most difficult to recognize, for many patients complain of nasal blocking, and nothing more. Here is a pitfall for the diagnostician. Unless it is remembered that the early morning and the late evening are the times of election for the manifestations of allergic phenomena in the nose, the sight of apparently normal nasal cavities when the patient is seen during the day will only arouse suspicions of neurasthenia.

Once we begin to think "allergically" (a habit which I believe the large number of allergic patients justifies) a little further questioning along the lines of "family history" will frequently furnish additional confirmatory evidence. As is well known, asthma, hay fever, urticaria, eczema, cyclical vomiting, some forms of purpura, migraine, angioneurotic oedema, pruritus, etc., form a group of symptoms (I think you will agree that they should be regarded as symptoms and not as diseases) with an allergic basis in a large percentage of cases. Association of itching in the eyes, ears, and palate will give additional confirmation in a case suspected of being allergic in origin. Apart from its colour, which in my experience is nearly always pale in proportion to the severity of the symptoms, the extreme irritability of the nasal mucosa in allergic patients is of considerable diagnostic value. The slightest manipulation causes swelling, rhinorrhoea, and excessive lachrymation.

Determination of an Infection

One point in the diagnosis of allergy to which I should like to direct attention is the difficulty of distinguishing between a chronic catarrhal affection with polyposis and changes in the deeper mucosal layers and an allergic affection without any infection. It is possible to have: (1) polyposis due to allergy; (2) polyposis due to infection; and (3) polyposis with both allergy and infection.

* Read in the Section of Laryngology at the Annual Meeting of the British Medical Association, Melbourne, 1935.

The presence or absence of an abnormal type of nasal secretion—mucus pus or pus—is a rough test for determining the presence or absence of infection. Regarding the value of the finding of an excess of eosinophil cells as a criterion of the presence of allergy, I would rather not dogmatize, but will leave the decision to the pathologists who will discuss this subject. I may, however, mention the findings of Kahm and Stout.[1] They conclude that a high eosinophil count when examining the nasal secretion is almost invariably diagnostic of the presence of allergy, while the presence of a large number of polymorphonuclear leucocytes indicates infection. As a rule, I think one may receive the necessary guidance from the appearance of the mucosa, or (in those cases in which operation is rendered necessary by the character or extent of the morbid changes) on the reaction of the tissues to operation.

It seems appropriate to mention at this point our attitude towards radiological reports on this type of case. Mucosal thickening will be almost invariably found, and this fact calls for a modification of the attitude that for so long has been accepted as correct. If an allergic patient has a waterlogged nasal mucosa he also has a waterlogged sinus mucosa, and an *x*-ray examination will reveal it as such, but another *x*-ray picture taken twenty-four hours later may show a normal mucosa. This point will be referred to later when discussing treatment.

Treatment

Now as to treatment, and once more to consider an overpowering wealth of material. The sheet anchor I firmly believe to be a recognition of the offending protein where possible, and desensitization. The statement made by many that the nose is the portal of entry, and that therefore it is the logical point of attack, leaves me cold. There is no doubt that local treatment will benefit a large number of those who suffer to a slight extent, but even in such patients the effect is often temporary. We should go further and seek the cause. Ultimately we must answer the questions: "What is the nature of this allergic tendency? What are the inheritable characteristics determining its existence and how may they be controlled? Why does the increased capillary permeability arise?"—a series of pretty questions for the biochemist.

I am firmly convinced that testing and treatment should be undertaken only by the skilled and experienced laboratory worker; any other proceeding is likely to bring an exceedingly useful form of investigation and therapy into disrepute. Failure to obtain a positive skin reaction to foreign proteins leaves us a choice of two methods of attack, general and local. The relation of dietetics to allergic manifestations and the possibility of their control by the administration of acid ash foods has been investigated, but the suggestions made do not appear to have received very wide support. Faulty diet may be a contributing factor; but when one considers, first, the inherited tendency to allergy, and, secondly, the early age at which this tendency may make itself manifest (it has been proved to be present a few days after birth), one realizes that the root of the trouble must go far deeper than this, though it is not impossible that certain types of food may help to rectify an inherited error in body chemistry. Thyroid, mineral acid, etc., will all bring success in isolated and selected cases.

The Place of Surgery

And, finally, to consider the place of nasal surgery, applications to the nasal mucosa, etc. A large number of sufferers from allergic symptoms in the nose are ill equipped by nature to stand the attacks to which they are subjected. Their noses are high and narrow, and the slightest swelling of the mucosa will bring the septum and the outer nasal wall into contact. The temptation for the surgically inclined to resect the septum under these circumstances is almost irresistible. Nevertheless, I should advise against surgical interference unless the septal deformity is very considerable or the septum itself is very thick. Enlargements of the turbinates may call for operation if they give rise to serious obstruction, but the point I would make is that these measures in themselves do not do more than prepare the soil for more lasting forms of treatment: they help; they do not cure in the majority of cases. In certain types of mucosal change—those characterized by extreme pallor—surgery of any nature may be disastrous, and I think we should avoid it at all costs.

Large polypi may need removal, and, in the event of a superimposed infection, more radical and extensive operations may be necessary, but again let me repeat that in my opinion supplementary treatment will be needed. It may rightly be asked what useful suggestions, if any, I can make for this supplementary treatment, and I will confess that to my mind this is the most difficult common problem (excepting otosclerosis) which confronts us in our work. Of course, if our patients could all be desensitized we need look no further for aid; but unfortunately many of the types exhibiting the severest symptoms do not appear to be demonstrably protein-sensitive, though they conform so closely to the allergic types in other respects that we must accept them as such. For these I always employ zinc ionization, and I have found it to be a very valuable therapeutic agent. Should it fail I turn my patient over to the radiologist for treatment, not with invariable success certainly, but often with very gratifying results.

There is one question that I must touch upon: the role of the rhinologist in the treatment of asthma. I am constantly having patients referred to me, together with *x*-ray films demonstrating mucosal swelling, with the statement that the patient requires a radical operation on the sinuses in order to bring about a cure of the asthma. I believe that in the presence of infection operation must be undertaken; in its absence I refuse to be talked into what I believe to be a surgical futility. What annoys me intensely is that so many physicians cannot appreciate this point of view even to the extent of admitting that there *might* be something in it.

I am sure that it is just as wrong to be profoundly anti-surgical as it is to be surgically extreme in one's outlook. We can all point to many cases of asthma greatly benefited by radical (very radical) operation, but we must select them; and only our experience will be our guide as to which are likely to do well and which are likely to end in disappointment for all concerned.

[1] *Journ. Amer. Med. Assoc.*, October 29th, 1932.

S. A. Klein (*Bruns' Beitr. z. klin. Chir.*, July 29th, 1935, p. 15) discusses the uses of Besredka's antivirus—the filtrate from a twice inoculated and incubated broth culture of bacteria. The local use of the antivirus, as recommended by Besredka, is advisable in certain cases, but its undoubted good effects are not specific, the immunizing effect depending partly on protoplasmal activation and partly on an unknown factor which may be antigenic in nature. Experimentally, Klein found antivirus effective in securing healing in infected fractures or wounds, and in peritonitis following ligature and perforation of the appendix. Clinically, on the contrary, the antivirus was useless in acute perforative appendicitis and of doubtful utility in infections of the hand. It deserves trial in recent compound fractures, is effective in erysipelas, and in Klein's experience secured satisfactory healing in twenty-three cases of surgery of the intestine or rectum. Here the dose used for the local application was usually 50 c.cm.

LUPUS VULGARIS*

A NOTE ON A NEW METHOD OF TREATMENT BY INTRADERMAL INJECTION OF PHENYLETHYL HYDNOCARPATE

BY

NORMAN BURGESS, M.A., M.D., M.R.C.P.

PHYSICIAN IN CHARGE, SKIN AND LIGHT DEPARTMENTS, BRISTOL GENERAL HOSPITAL; CLINICAL LECTURER IN DISEASES OF THE SKIN, UNIVERSITY OF BRISTOL; DERMATOLOGIST, ALBERT DOCK HOSPITAL, LONDON

(*With Special Plate*)

The similarity between leprosy and tuberculosis has frequently been noted, and has led to remedies for leprosy being used in lupus vulgaris. In 1933 Rogers[1] reported successful results in the treatment of the latter disease with sodium morrhuate and creosoted moogrol (ethyl esters of hydnocarpus oil with 4 per cent. creosote) injected intradermally into the lesions, a technique originally devised by workers in the Philippine Islands,[2] and widely used in the treatment of cutaneous leprosy.[3] Muende has also treated cases of lupus vulgaris with creosoted moogrol,[4] but he found that the injections caused considerable pain and local reactions. His results were good in adults, but not in children. Further cases of lupus in adults treated by Muende and Cochrane with creosoted moogrol have confirmed these observations.[5]

Owing to the pain caused by the creosoted ethyl esters Cochrane suggested to the chemical research department of Burroughs Wellcome and Co. that some preparation might be made which would be less painful. Hydnocarpus oil is chiefly composed of a mixture of glyceryl esters of chaulmoogric and hydnocarpic acids. "Glyceryl" is the radical derived from ordinary glycerin or glycerol, and may be replaced in hydnocarpus oil by other radicals, such as "ethyl" from ordinary alcohol or "methyl" from wood alcohol. After much research, in the course of which many preparations of this type were made from hydnocarpus oil, it was found that phenylethyl esters, in which the replacement radical is "phenylethyl"—derived from phenylethyl alcohol, a bland substance having a slight local anaesthetic action—proved to be one of the least irritant preparations, and to be as easily absorbed as any other kind of hydnocarpus ester.

It has long been known that some samples of hydnocarpus oil are more irritant than others, and that this may persist in esters made from such oil. The source of this extra irritation has been traced to a constituent in the small uncrystallizable portion of the total fatty acids derived from the oil.[6] It is possible to eliminate this material, and this has been done in preparing the phenylethyl esters used in this investigation. A convenient name for the preparation is "phenylethyl hydnocarpate." The preparation, after a limited trial, was found not to be of greater efficacy in the treatment of leprosy as compared with the ordinary preparations, but it was much less painful. Cochrane therefore suggested to me, a little over a year ago, that this preparation should be tried in cases of lupus vulgaris.

In this report are recorded the results of treatment in eleven cases. The preparation is injected intradermally into the lesion.

Case Records

CASE 1

E. S., male, aged 26 years. Operation on cervival glands at age of 3 years. "Skin disease" affecting left side of neck and chin for as long as he can remember. Sought advice from me for the first time on April 26th, 1934. Prior to this had had treatment with chemical caustics, *x* rays, radium, and carbon dioxide snow. On left side of neck, angle of jaw, and chin there was a large scar with hyperkeratosis in the centre and telangiectases; nodules of lupus vulgaris were present all around the edge of the scar.

Treatment.—11/5/34: Some of the nodules infiltrated with phenylethyl hydnocarpate (0.5 c.cm.). 18/5/34: All nodules infiltrated (2 c.cm.). 25/5/34: All nodules infiltrated (2 c.cm.). 1/6/34: All nodules infiltrated (3 c.cm.). 8/6/34: All nodules infiltrated. 20/6/34: Lesions flatter; nodules on posterior margin infiltrated (1 c.cm.). 29/6/34: Nodules on chin, front of neck, and upper part of posterior margin infiltrated (2 c.cm.). 3/8/34: Nodules on chin and front of neck infiltrated (2 c.cm.). 28/8/34: No nodules visible. 4/9/34: Some nodules on lower margin; these were infiltrated (1 c.cm.). 30/10/34: No nodules present. 27/3/35: No nodules present. 5/6/35: No nodules present. 17/7/35: No nodules present.

From May to September, 1934, the patient had weekly carbon-arc ultra-violet light baths, and was taking ostomalt three times a day.

CASE 2

H. B., male, aged 15 years. Patch of lupus on right side of neck for ten years. No previous treatment (see Fig. 1 on Special Plate).

Treatment.—11/5/34: Phenylethyl hydnocarpate 0.5 c.cm. injected intradermally. 18/5/34: Whole patch infiltrated (1 c.cm.). 25/5/34: Whole patch infiltrated (1 c.cm.). 1/6/34: Whole patch infiltrated (2 c.cm.). 8/6/34: Patch is paler and somewhat indurated (0.5 c.cm. injected). 20/6/34: Patch almost flush with surrounding skin (2 c.cm. injected). 29/6/34: Injection (1 c.cm.). 3/8/34: No nodules visible; area previously affected now quite flat and flush with surrounding skin. 28/8/34: No nodules visible. 30/10/34: Two very small nodules (0.5 c.cm. injected into these). 9/1/35: Two pinhead-sized nodules (0.25 c.cm. injected). 13/2/35: Injection (1 c.cm.). 20/3/35: No nodules visible; Fig. 2 on Special Plate shows result of treatment. 15/5/35: No nodules visible. 5/6/35: No nodules visible. 17/7/35: No nodules visible.

From May to December, 1934, the patient was given weekly carbon-arc baths, and was taking ostomalt three times a day.

CASE 3

G. P., male, aged 38 years. Multiple patches of lupus vulgaris on face, body, and limbs since the war. Four patches were treated with intradermal injections of phenylethyl hydnocarpate.

1. *Patch on Right Shoulder: Treatment.*—15/6/34: Whole patch infiltrated (2 c.cm. injected). 22/6/34: Almost clear except at the medial border (1 c.cm. injected). 17/8/34: Injection (2 c.cm.). 31/8/34: Injection (1 c.cm.) into remaining nodules. 5/9/34: No nodules visible. 21/11/34: Three nodules present, which were infiltrated. 19/12/34: Injection (1 c.cm.). 6/2/35: Three nodules present—infiltrated. 20/3/35: Three nodules still present—infiltrated. 3/4/35: No nodules visible. 15/5/35: No nodules visible. 19/6/35: No nodules visible. 17/7/35: No nodules visible.

2. *Patch in Right Axilla.*—No previous treatment (see Fig. 3 on Special Plate). *Treatment:* 16/1/35: External half of lesion infiltrated (3 c.cm.). 21/1/35: Whole area infiltrated (3 c.cm.). 6/2/35: Whole area infiltrated (2.5 c.cm.). 21/2/35: Whole area infiltrated (2 c.cm.). 6/3/35: Injection (1 c.cm.). 20/3/35: Nodules only present at edge of patch—infiltrated. 1/5/35: No nodules present; Fig. 4 on Special Plate shows progress. 17/7/35: No nodules present.

3. *Patch on Left Forearm.*—Previous treatment elsewhere with *x* rays and chemical caustics. *Treatment:* 5/9/34: Nodules on inner margin infiltrated (5 c.cm.). 12/9/34. Nodules on inner margin and upper part of patch infiltrated. 19/9/34: Injection (2 c.cm.). 10/10/34: Injection (2 c.cm.). 23/10/34: Injection (1 c.cm.). 7/11/34: Injection into outer edge of patch (1.5 c.cm.). 5/12/34: Injection into inner edge of patch (2 c.cm.). 19/12/34: Injection into outer edge of patch (1 c.cm.). 9/1/35: Injection into inner margin of patch (1.5 c.cm.). 22/1/35: Inner margin infiltrated. 13/2/35: All nodules infiltrated (3 c.cm.). 27/3/35: All nodules infiltrated (2 c.cm.). 3/4/35: All nodules infil-

*A paper read at the Ninth International Congress of Dermatology and Syphilology at Budapest, September, 1935.

trated (1 c.cm.). 17/7/35: Very few scattered nodules present—infiltrated.

4. *Patch on Left Side and Front of Neck.—Treatment:* 29/5/35: Vertical limb of patch infiltrated (2 c.cm.). 19/6/35: Vertical limb of patch infiltrated (2 c.cm.). 3/7/35: Horizontal limb infiltrated (2 c.cm.). 17/7/35: Horizontal limb infiltrated (4 c.cm.). Vertical limb now free from nodules.

From November, 1934, to April, 1935, this patient was given weekly carbon-arc baths. He is taking radiomalt three times a day.

Case 4

M. M., female, aged 21 years. Multiple patches on face, chest, and limbs followed measles in childhood. Patch on left side of chest was treated by intradermal injections of phenylethyl hydnocarpate. Fig. 5 on Special Plate shows condition before treatment.

Treatment.—7/11/34: Whole patch infiltrated (0.75 c.cm.). 21/11/34: Patch is flatter (1 c.cm. injected). 11/12/34: Part of patch infiltrated (1 c.cm.). 9/1/35: Whole patch infiltrated. 13/2/35: Whole patch infiltrated. 20/3/35: Part of patch infiltrated. 19/6/35: Affected area is flush with the surrounding skin, and only two nodules are visible—infiltrated. 24/7/35: Two small nodules only are present—infiltrated (0.1 c.cm.). Fig. 6 on Special Plate shows progress made.

Case 5

S. O., female, aged 65 years. Face affected for over twenty years. Has had very little treatment. When first seen (January 16th, 1935) lupus nodules were present on cheeks, nose, upper lip, hard palate, and gum of upper jaw. Ulceration present on both cheeks, and an epithelioma present on tip of nose. Fig. 7 on Special Plate shows condition prior to injection.

Treatment.—16/1/35: Radium applied to epithelioma on nose (full strength, 20 mg. flat applicator, screened with 2 mm. of lead, applied for forty-eight hours). Hydrarg. ammon. 1 per cent. in zinc paste used for dressing ulcerated areas on the cheeks. 20/1/35: Injection (1 c.cm.) into nodules on lower half of left cheek. 6/2/35: All nodules on left cheek infiltrated (2 c.cm.). 13/2/35: All nodules on right cheek infiltrated; 1 c.cm. injected into gum of upper jaw. 5/3/35: Injection into gum of upper jaw (1 c.cm.). 26/3/35: Nodules on right cheek infiltrated (1 c.cm.). 17/4/35: Only a few nodules present on skin—infiltrated. Injection into gum of upper jaw (0.5 c.cm.). Ulcerated areas have healed; considerable improvement in mucous membrane lesions. Fig. 8 on Special Plate shows the result of treatment.

The patient was unable to attend hospital for further treatment owing to the distance of her home from Bristol.

Case 6

G. H., male, aged 48 years. Lupus vulgaris on right side of face since infancy. Has had much previous treatment, including *x* rays. Large scar with some telangiectases on the right side of the face, with a few lupus nodules at the medial border.

Treatment.—27/6/34: Nodules infiltrated. 10/10/34: All nodules infiltrated (2 c.cm.). 15/10/34: Swelling on right side of face. 24/10/34: Swelling has subsided. 20/3/35: Nodules on right side of nose infiltrated (0.5 c.cm.). 10/4/35: Nodules on right side of nose infiltrated (0.5 c.cm.). 29/5/35: Nodules on right side of nose infiltrated (0.25 c.cm.). 17/7/35: Definite improvement, but some nodules still present—infiltrated.

From November, 1934, to March, 1935, this patient was given weekly carbon-arc baths.

Case 7

A. C., female, aged 27 years. Patches of lupus on right side of face and nose for several years.

Treatment.—15/5/35: All nodules infiltrated. 25/5/35: All nodules infiltrated. 3/7/35: All nodules infiltrated (1 c.cm.). 17/7/35: Some induration in lower patch; upper patch and patch on the nose are flatter; nodules in two latter patches infiltrated (0.5 c.cm.). 24/7/35: All patches are now flat; induration in lower patch diminished but still present; upper patch and patch on nose infiltrated (0.5 c.cm.).

The patient has had weekly carbon-arc baths since beginning treatment, and has taken malt three times a day.

Case 8

A. F., male, aged 31 years. Lupus vulgaris affecting right side of face over an area of four square inches for several years. Had been under treatment since 1932 with pyotropin. Large numbers of scattered nodules present in the scar.

Treatment.—6/3/35: All nodules infiltrated. 27/3/35: All nodules infiltrated (1 c.cm.). 17/4/35: All nodules infiltrated (0.75 c.cm.). 29/5/35: All nodules infiltrated. 17/7/35: Very few pinhead-sized nodules now visible. Affected area is smooth and flush with general skin surface.

Case 9

M. B., female, aged 36 years. Patch of lupus vulgaris on right thigh three inches by one inch since childhood. First seen on May 31st, 1934, and treated with the Kromayer lamp with compression. She was also put on a salt-free diet.

Treatment.—20/5/35: Whole patch was flush with the surface, and only four nodules remained at the margin of the lesion. Phenylethyl hydnocarpate (1.5 c.cm.) was injected into the remaining nodules. 3/6/35: Considerable swelling and induration of the whole patch; patient complains of irritation. 17/6/35: Irritation subsiding, but still present. 1/7/35: Induration almost completely subsided; no nodules present.

Case 10

R. D., female, aged 4 years. Patch of lupus vulgaris on flexor aspect of left arm present for about a year.

Treatment.—10/7/35: Patch infiltrated. 17/7/35: Patch has become almost level with surrounding skin; some scaliness present, and induration following injection not yet completely subsided; general carbon-arc baths are being given once a week, and the child is taking radiomalt three times a day. 24/7/35: Induration disappeared—lesion infiltrated (0.1 c.cm.).

Case 11

W. E., male, aged 34 years. Patient first seen on May 2nd, 1934. Had been having treatment elsewhere for lupus vulgaris of the nasal mucosa on the right side for four months. Some swelling present on the right side of the nose.

Treatment.—2/5/34 to 7/11/34: Local treatment with Kromayer lamp and general carbon-arc baths. 29/6/34: Examined by Mr. Gordon Scarff, who reported, "Active lupus vulgaris is present in the right nostril." 7/11/34: Again examined by Mr. Scarff, who reported, "Active lupus is still present in the nasal mucosa." 28/11/34: Phenylethyl hydnocarpate (0.25 c.cm.) injected into lesion. 12/12/34: Injection (0.25 c.cm.). 9/1/35: Injection (0.25 c.cm.). 8/2/35: Injection (0.75 c.cm.). 22/2/35: Injection (0.75 c.cm.). 15/3/35: Examined by Mr. Scarff, who reports a very definite improvement—0.25 c.cm. injected. 19/7/35: "No lesions visible in mucous membrane."

Comment

It will be seen from the reports detailed above that in Cases 1 to 5 the average number of treatments necessary to clear up the affected areas was between eight and nine. In Case 3, "patch 1" was clear, except at one edge, after one treatment, while half of "patch 4" was clear after two treatments only. In Case 9 the nodules which remained after treatment with ultra-violet light cleared up after one injection, while in Case 11 the lesions in the nasal mucosa cleared up after six injections. Cases 6, 7, 8, and 10 are still under treatment. In Case 6 treatment was somewhat irregular, and on one occasion there was rather a severe local reaction. A similar reaction, but more intense, was observed in Case 9, which only received one injection. (Cochrane tells me that similar reactions are occasionally seen in leprosy.) In Case 9 no lupus nodules were visible when the reaction had subsided. In the remaining cases the induration was relieved in a few days. Less improvement has been noted in Case 6 than in the other instances. Case 10 is of interest in view of Muende's failure to obtain good results in children with creosoted moogrol. This case has only just come under treatment, but the reaction following the first injection is comparable with that seen in adults. Cases 5 and 11 show the value of

the treatment affecting the mucous membranes. Mr. Scarff, assistant surgeon to the ear, nose, and throat department, Bristol General Hospital, who co-operated with me in the treatment of Case 11, is so far very favourably impressed with the result of this method. Those cases still under treatment are making satisfactory progress.

The advantages of this method of treatment are: (1) comparatively little pain is experienced by the patient; (2) the treatment sessions are of short duration; (3) the technique of treatment is simple; and (4) after treatment very little scarring is present, the skin being quite supple. It would, of course, be unwise at this stage to make any extravagant claims for this method, but the results so far obtained do, I think, indicate that it is worthy of a more extensive trial.

Summary

1. A new method of treatment of lupus vulgaris is described, consisting of intradermal injection of phenylethyl hydnocarpate into the lesions.

2. The results of treatment in eleven cases are recorded. In seven cases clinical cure of affected patches was obtained. The other four cases are still under treatment, and are making satisfactory progress.

3. Comparatively little pain is experienced by the patient.

4. It is suggested that these results indicate that a more extensive trial of the method should be made.

I wish to express my thanks to Dr. Cochrane for suggesting the method of treatment; to Dr. Henry of Messrs. Burroughs Wellcome and Co., who prepared the phenylethyl hydnocarpate; to Dr. Price, my former house-physician, for taking most of the photographs; and to Miss K. Whitton, my clinic nurse, whose help has been of the greatest assistance.

References

[1] Rogers, Sir Leonard: *British Medical Journal*, 1933, i, 47.
[2] Lara, C. B., and Nicholas, C.: *Journ. Philippine Islands Med. Assoc.*, 1929, ix, 321; ibid., 1929, ix, 336.
[3] *Leprosy Review*, 1931, xi, 94.
[4] Muende: Personal communication.
[5] Muende and Cochrane: Personal communication.
[6] Paget, Trevan, and Attwood: *Internat. Journ. of Leprosy*, 1934, ii, 149.

CONGENITAL CYSTIC LUNG

BY

ALISTAIR ARGYLL ROBERTSON, M.D.Ed.

LATE RESIDENT MEDICAL OFFICER, SHEFFIELD CHILDREN'S HOSPITAL

(With Special Plate)

The term "congenital cystic lung" is used for cases in which occlusion cysts appear in the lungs—that is, cysts which have no communication with the bronchi—and for cases of congenital bronchiectasis in which the dilated bronchi appear as cysts. The condition is not common. Koontz,[1] in 1925, collected 108 cases of congenital cystic lung (including many of congenital bronchiectasis) from the literature. He also describes a case of his own of bronchiectasis (obviously congenital) in a twelve-days-old child. A case of congenital cystic lung in an eight months foetus, described by Sydney Smith,[2] is quoted by Wood,[3] but in this instance the cysts did not communicate with the bronchi. Wood[3] records a case of his own of congenital bronchiectasis in a youth of 18, and Morlock and Pinchin[4] have seen several cases in young adults.

Case Report

The following is a case of congenital bronchiectasis. Its chief interest lies in the fact that an opportunity was obtained of studying it both clinically and at necropsy.

A female child, aged 10 months, was admitted to hospital on December 4th, 1934, for constipation and malnutrition with the following history. A first child; normal delivery at full term. Father and mother well. Weight at birth not known; breast-fed for ten weeks, then given various artificial foods—namely, Ostomilk, Cow & Gate, Nestlé, and finally cow's milk and Blakey's oatmeal. She was apparently a healthy child until 6 months old, when she had pneumonia. It was not known whether this was lobar pneumonia or bronchopneumonia, but the illness was severe and lasted ten days. A week later she developed pneumonia again; this time it lasted two weeks, and was again severe, but the type was not known. After this the child had persistent cough and failed to gain weight satisfactorily. There were never any attacks of dyspnoea or cyanosis. She suffered from constipation and occasional vomiting.

CLINICAL NOTES

On admission the child weighed 11 lb. 12 oz., and was pale, lethargic, and undernourished. Coarse rhonchi all over chest, but especially on left side; otherwise no abnormality. Temperature 99° to 100° F. for a few days, but later this settled to 98° F. Crepitations often heard at the bases, especially on the left side. Cough persisted, but the bowels moved normally and there was no vomiting. She gained weight slowly, and was discharged a fortnight after admission, her weight then being 12 lb. 9 oz.

Readmitted a fortnight later; had lost 2 lb. History of frequent loose brown stools commencing soon after discharge and persisting till readmission. Temperature 101° F. Toxic and dehydrated. Crepitations all over chest, but especially on left side. No other abnormality. For a few days the patient had one loose green stool daily and occasional vomiting, but the stools soon became normal and vomiting ceased. She had a persistent loose cough, and the temperature fluctuated from 98° to 100° F. daily. The crepitations grew louder and more bubbling in character. She became dyspnoeic and more cyanosed, and died twelve days after admission.

NECROPSY NOTES

A thin infant. Small sore over sacrum. The right pleura and pleural cavity were normal. The right lung showed a few small areas of collapse, but no pneumonia and no cysts. The left lung was adherent to the chest wall and to the diaphragm by tight fibrous adhesions. There was consolidation of most of the left lower lobe, especially at the base. The left upper lobe was divided into two: the upper part was normal; the lower part consisted of a number of thin-walled vesicles of varying sizes, the maximum being about 1/3 inch in diameter. (See Plate.) The heart, and the stomach, intestines, and other abdominal viscera were normal. The brain and meninges were not examined.

Before the lungs were sectioned they were removed complete with trachea, and a solution of barium sulphate (such as is used for a barium meal) was injected through the larynx by means of a Higginson syringe. An *x*-ray photograph was then taken, which showed that the barium had entered and outlined the cysts. (See Plate.)

PATHOLOGICAL REPORT

The following is the report on the microscopical examination of the left lung. *Upper lobe.*—The "cysts" are obviously dilated bronchi, and for the most part lined by a layered bronchial mucosa. In places the mucosa is missing and the "cysts" are then lined by inflammatory granulation tissue, in which are numerous large cells having a markedly vacuolated cytoplasm and which appear to be macrophages. Pus is present in some of the cysts, together with remnants of injection material. Alveoli are present, but tend to be collapsed; some of them are lined by cubical epithelium suggesting that they were not functioning. *Lower lobe.*—Acute bronchopneumonia with early fibrosis in parts. Bronchial and cervical lymph glands; oedema and hyperaemia; there are none of the giant cells described by Collins.[5]

Comments

This case is one of congenital bronchiectasis because: (1) a radiogram after barium injection showed that the cysts communicate with the bronchi; (2) microscopical examination reveals bronchial tissue in the cyst walls. In view of the previous history of pneumonia it might be suggested that this was an acquired condition. Neither the naked eye nor the microscopical appearances, however, were those of acquired bronchiectasis, and it is more likely that the pneumonia aggravated the condition and caused clean cysts to become septic and infected.

I am indebted to Dr. Bremner, honorary physician, Sheffield Children's Hospital, for permission to publish this case; and to Dr. Harding, lecturer in pathology, Sheffield University, for the necropsy notes and pathological report, and for the use of the photographs.

REFERENCES

[1] Koontz: *Bull. Johns Hopkins Hosp.*, 1925, xxxvii, 340.
[2] Smith: *British Medical Journal*, 1925, i, 1005.
[3] Wood: *Tubercle*, 1934, xvi, 49.
[4] Morlock and Pinchin: *British Medical Journal*, 1933, ii, 780.
[5] Collins: *Journ. Path. and Bact.*, 1933, xxxvii, 123.

CONGENITAL DILATATION OF THE URETER

BY

CEDRIC HILLIARD, M.B., B.CH., D.M.R.E.

HONORARY RADIOLOGIST, PADDINGTON CHILDREN'S HOSPITAL

(With Special Plate)

Dilatation of the ureter, or megalo-ureter, was first reported by Saintu in 1896 in a foetus, and many cases have been recorded since both in the newborn and in children. This dilatation may be congenital or secondary to infection or calculus. In foetal life, up to the fifth month, the ureter is of enormous calibre as compared with the kidney and the rest of the body. Instead of the normal diminution of calibre with body growth this foetal condition of ureteric enlargement may persist.

Eisenstaedt[1] reported two cases of primary megalo-ureter in girls of 5 and 7½ years. In both there was frequency, dysuria, pyrexia, and cystitis, and the ureteric dilatation was found to be bilateral. He discussed the possible causes, and suggested the condition was due to one of the following: (1) deficient development of musculature; (2) absence of the normal inhibition of growth at the fifth month of foetal life; (3) a disturbed or deficient nervous mechanism controlling function. The characteristics of congenital megalo-ureter are: (1) great size of both ureteric orifices, which are rigid, gaping, and motionless; (2) complete and wide communication between the bladder and renal pelvis; and (3) complete filling of the urinary tree when a cystographic examination is made.

Owsley Grant[2] recorded the case of a child of 1½ who had dilatation of the ureters without evidence of nerve involvement or obstruction, and due to infection alone. There was a well-marked *B. coli* pyuria with a leucocytosis of 34,000 cells per c.mm., and a typical cystogram showing a distended bladder and sausage-shaped ureters with uniform dilatation as far as the renal pelves. Treatment by continuous drainage for two months resulted in the condition of the ureters returning almost to normal.

MacMyn,[3] in an article on "Dilatation of the Ureters and Hydronephrosis in Childhood," discussed the various causes, and stated that many of the cases of so-called idiopathic dilatation of the ureter are really due to obstruction of a valvular nature by folds of mucous membrane in the posterior urethra. These valves may not be discernible clinically by instrumentation, and may only be discovered post mortem by special dissection.

The following case is of interest because the dilatation was confined to the right kidney and ureter, the left side being quite normal.

Case Report

A boy, aged 5, was admitted to the Paddington Green Children's Hospital on June 30th, 1934, for investigation. He had previously attended the out-patient department on and off for about six months, suffering from chronic cystitis and painful micturition. During an earlier admission for investigation he was found to have nasal diphtheria, and was therefore sent to a fever hospital. On his discharge ten weeks later he still had pyuria, the urine being thick and offensive.

On admission he was a well-developed child and did not look ill. There was slight pyrexia and a pulse rate of 116. Tongue, teeth, throat, heart, and lungs were normal. The abdomen was not distended except in the hypogastrium, where there was a rounded, cystic swelling extending halfway to the umbilicus: probably distended bladder. The urine was strongly alkaline; albumin was present as a cloud, and centrifugalized deposit contained crystals of triple phosphate, a few pus cells, a few red blood corpuscles, and numerous coliform bacilli as long threads. Frequency of micturition was about six times by day and four times at night.

INVESTIGATIONS

July 3rd.—*X*-ray examination of the urinary tract gave no evidence of stone in the kidneys or bladder. *July 6th.*—Excretion urography after injection of 5 c.cm. of uroselectan B showed normal left kidney and ureter. No evidence of excretion from the right kidney. During this time the patient was treated with pyridium, and the condition of the urine improved, but pus was still present.

July 16th.—Cystoscopy by Mr. Shattock under a general anaesthetic. The capacity of the bladder was found to be large, about sixteen ounces being retained. There was a mild cystitis, and both ureteric orifices appeared normal. Above the right ureteric orifice was seen a deep "golf-hole" sacculation. Intravenous injection of indigo-carmine gave a normal efflux from the left ureteric orifice, but none from the right. It was not possible to pass a catheterizing cystoscope. Ten days later the patient was transferred to St. Monica's Home, as the ward had to be closed, and he was readmitted three weeks later. He still had a slight irregular pyrexia, but otherwise appeared fairly fit. The bladder was still dilated, but micturition was normal.

September 5th.—Aero-cystography was carried out without anaesthesia; sixteen ounces of air were introduced without causing pain. Behind and to the right of the bladder was an elongated air bubble, suggestive of a greatly dilated lower part of the right ureter.

September 8th.—Cystography was performed, using a 12½ per cent. solution of sodium iodide. Fifteen ounces of solution could be introduced easily, and showed a huge bladder extending upwards above the umbilicus. Fluid was allowed to evacuate naturally, and a second film exposed. It was then found that some of the fluid had run upwards into a grossly dilated, elongated, and tortuous right ureter and into the pelvis and calices of the hydronephrotic right kidney. During the next two or three days micturition was painful; there was also some supra-umbilical pain, and the urinary output was diminished. He was given acid sodium phosphate, 20 grains, three times per day, and his condition rapidly improved.

OPERATION

On October 3rd Mr. Shattock performed right ureteronephrectomy. The ureter was found to be the size and consistency of small intestine, saccular and tortuous. The renal vessels entered abnormally into the upper pole of the kidney, and division of the last rib was necessary before the kidney could be mobilized. It was small, red, and soft, consisting largely of pelvis with a thin wall and with little kidney tissue

present. Large vessels were seen running along the ureter, which was freed to within an inch of the bladder, where it was doubly ligated and divided. The kidney and proximal part of the ureter were removed, and the wound closed with drainage down to the ureteric stump. A catheter was inserted to avoid back-pressure on the ureteric stump. After operation the condition of the urine was improved, but the infection persisted although it was less severe.

Cystoscopy was carried out by Mr. Shattock on November 8th. The residual urine was now only three ounces, the capacity of the bladder being over twelve ounces. The mucosa appeared clean and healthy. Both ureteric orifices were normal, and above the right the "golf-hole" opening appeared more retracted than formerly. The patient was discharged on November 28th, and is now under observation in the out-patient department. At his last attendance his general health was greatly improved; there was no distension of the bladder, and micturition was normal and the urine clear.

Remarks

This case is of interest because:

1. The dilatation was unilateral. The abnormality was confined to the right side, the left being normal both in structure and in function.

2. No evidence of obstruction was found in the ureter or urethra, either by stricture or stone, or by a valve of mucous membrane.

3. The ureter was thick-walled, resembling small intestine, and active peristalsis was present in spite of the absence of any obstruction.

I am greatly indebted to Mr. Shattock for his kind permission to publish this case, and to Dr. Perkins for the pathological details.

REFERENCES

[1] Eisenstaedt: *Arch. of Surg.*, July, 1926.
[2] Grant, Owsley: *Journ. of Urol.*, 1926, xvi, 137.
[3] MacMyn: *Brit. Journ. Urol.*, 1929, i, 150.

BILATERAL FRACTURE OF THE FIRST RIB

BY

M. CARLTON OLDFIELD, B.M., F.R.C.S.

(With Special Plate)

Fracture of both first ribs is a rare occurrence; only one similar case has been found in the literature.[1]

Case Report

A man, aged 70, was admitted to the General Infirmary at Leeds, under the care of Mr. P. J. Moir, on August 13th, 1934, after a bus accident. The patient remembers that he was sitting in the bus with his left elbow on the window ledge before the accident happened. He became unconscious and remained so until after admission to hospital, when his only complaint was pain in the lower part of the neck if he coughed.

Examination.—There was a small wound two inches long on the forehead; no bruising on the neck or chest. There was deep tenderness in both the supraclavicular fossae. A sharp pain was felt in this situation on coughing and on pressing the sternum towards the spine. The neck was stiff, and both the shoulder-joints were osteo-arthritic. No signs of injury to the subclavian artery or vein or the brachial plexus could be detected. A stereoscopic *x*-ray examination showed a transverse fracture of both the first ribs in a similar position on each side—that is, at a point near the maximum convexity in the region of the subclavian groove between the attachment of the scalenus medius and scalenus anticus. Both first rib cartilages were ossified. A lateral view of the cervical spine showed an advanced degree of osteo-arthritis.

Treatment and Progress.—The patient was propped up in bed, and the upper part of the chest was strapped in the usual manner. He suffered from an acute exacerbation of an old-standing chronic bronchitis while in bed, but when discharged, three weeks after admission, was free from symptoms. He was seen again three months after leaving hospital, when he complained of pain radiating from the right side over the shoulder and the deltoid muscle. There was no hyperaesthesia or paraesthesia, and no sign of pressure on the brachial plexus or subclavian artery or vein.

One Similar and Other Comparable Cases from the Literature

Friedl[1] describes a case which was under the care of Porzelt. The patient was a recruit, aged 20 years, who fainted during a march and fell to the ground. He recovered rapidly, but complained of tightness when breathing, and inability to work. He was admitted to Zurich Hospital three weeks later. *X*-ray examination of the chest showed a transverse fracture situated in the middle of the right and left first ribs without displacement. There was a large amount of callus formation, and union was delayed. No other ribs were fractured. Friedl mentions ten cases of fracture of the first rib; the right was fractured in eight cases, the left in one, and both the left and right in one. He quotes one case in which the subclavian artery was eroded by the pointed end of the posterior fragment, and the patient died.

Stoppel[2] records a case in which there were fractures of the second and fifth ribs on the left, posterior and downward dislocation of the inner end of the right clavicle, associated with a double fracture of the first rib on the right and a single fracture of the first rib on the left. The patient was a coal miner, aged 30, who slipped off a ledge while fixing a pit prop and lost his hold of the prop, which fell on his left shoulder. It was thought that the second and fifth ribs on the left were fractured directly by the prop, and the first ribs by indirect violence at the site of maximum convexity, like a bent stick whose ends are pressed together.

Bürcher[3] describes the necropsy on a patient in whom both first ribs were fractured, as well as the second and tenth ribs on the right and the manubrium sterni.

Commentary

Bilateral fracture of the first rib is rare. In most cases it is associated with multiple fracture of the other ribs and clavicles. The rarity of bilateral fracture of the first rib as an *isolated lesion* would suggest some unusual feature in the nature of the violence, or an abnormal condition of the chest wall, as was present in the case described.

Considering the depth of the first ribs, the protection afforded by the soft parts, and the symmetrical nature of the fracture, it is reasonable to conclude that the cause of the fracture was indirect violence. In the presence of a rigid cervical spine and ossified first rib cartilages, a force applied to the upper part of the sternum in an antero-posterior direction would tend to cause bowing of the first ribs. Fracture would be likely to occur at the point of maximum convexity—that is, in the region of the subclavian groove, particularly as this happens to be a relatively thin part of the rib. It is suggested that as the bus came to an abrupt standstill the patient was thrown violently forward, his sternum striking the back-rest of the seat in front of him, and by the sudden and violent compression of the abnormally rigid structures the ring of bones snapped at its weakest points. In this way both first ribs were fractured.

I am indebted to Mr. P. J. Moir for permission to publish this case, and to Professor J. Kay Jamieson for his advice.

REERENCES

[1] Friedl, E.: *Röntgenpraxis*, 1933, v. 881.
[2] Stoppel: *Fortschr. a. d. Geb. d. Röntgenstr.*, 1915, xxiii, 180
[3] Bürcher, J.: *Arch. f. Orthop.- u. Unfallchir.*, 1932, xxxi, 275.

Clinical Memoranda

A Note on the Pathology of Plasmodium knowlesi Infection in Man

(With Special Plate)

In the *Journal* of October 12th (p. 662) we gave an account of the use of the above parasite as a pyrotherapeutic agent in the treatment of general paralysis of the insane in man. In this article the rate of multiplication of *Plasmodium knowlesi* in human blood was discussed, but no more than passing reference was made to the appearance of the parasite in stained blood films. Three photomicrographs showing the pathogenic changes we have observed in blood films will be found on the special plate in this issue of the *Journal*. Below we give details supplementary to the description which will be found with these photographs.

FIG. 1.—This illustrates a blood film stained by Leishman's method, and giving a magnification of × 700. It shows several large pigmented parasites occupying the red blood corpuscles. Occasionally these parasites destroy the entire erythrocyte, and thereafter continue to lead an independent existence in the patient's serum. They may enlarge in size to attain a maximum limit of from 8.5 to 9.1 μ. The presence of ring varieties showing single chromatin dots and band types of the parasites has frequently been encountered, but neither rosette forms nor enlargement of the red blood corpuscles have yet been detected. In this case the blood was obtained fifteen days after 3 c.cm. of infected monkey blood had been injected intramuscularly into the patient.

FIG. 2.—This film was made on the twenty-fifth day following infection, the blood being taken during the patient's convalescence, and three days subsequent to the exhibition of quinine dihydrochloride. The presence of dark-coloured pigmented matter within the large mononuclear leucocytes, and the absence of similar material in the polymorphs, will be observed. This preparation was also stained by Leishman's method—magnification of × 700.

FIG. 3.—This film was made after quinine administration. It shows a parasitized red blood corpuscle phagocytosed by a large mononuclear leucocyte, and causing compression and indentation of the latter's nucleus. The ingestion of plasmodia by these scavenging cells is prominent after the administration of quinine, and indicates the probable source of origin of the pigment contained within the cytoplasm of the mononuclear cells alluded to in Fig. 2. The film was stained by Leishman's method—magnification of × 800.

C. E. VAN ROOYEN,
Halley Stewart Research Fellow and Lecturer in Bacteriology, University of Edinburgh.

G. R. PILE,
Senior Assistant Medical Officer, Midlothian and Peebles Asylum, Rosslynlee.

Congenital Duodenal Atresia with Complete Transposition of the Viscera

(With Special Plate)

A male infant, 4 days old, was admitted to the Victoria Central Hospital, Wallasey, with the history of persistent vomiting from birth. The child was one of twins, the other having been stillborn.

On examination the infant was seen to be well formed, and weighed approximately 5½ lb. Further, it was found that the child was definitely jaundiced, and a preliminary diagnosis of icterus neonatorum was made. It was decided to place him on hourly feeds of milk and water in the proportion of one part of the former to four parts of the latter, in 1-drachm doses. The child took most of these feeds, and in the first eighteen hours did not vomit, but this was followed by profuse vomiting, first of bile-stained fluid and then of bright red blood. Ten c.cm. of the paternal blood was now injected subcutaneously, but the haematemesis continued and the patient died a few hours later. During the whole of this time no visible peristalsis could be detected.

POST-MORTEM EXAMINATION

On opening the abdomen a large dilated stomach was found almost filling the upper half of the abdominal cavity. The wall of the stomach was of a deep plum-coloured hue. The fundus was situated in the right hypochondriac region, whilst the pyloric end was found under the gall-bladder on the inferior surface of the left lobe of the liver. The duodenum was dilated up to the end of the second part of it, and from there this organ appeared to be of normal calibre. The stomach, on being removed from the abdomen and opened, was found to be filled with blood, whilst the mucous membrane was very congested. The first and second parts of the duodenum were also dilated. At the distal end of the second part there was a blind end, which was attached to the third part, but separated from it by a mass of fibrous tissue. A probe was passed up the third part of the duodenum, but could not be passed into the second part owing to the obstruction present.

The gall-bladder, as has been stated, was situated on the side, whilst the spleen was found on the left side of the abdomen. On examination of the thoracic organs it was noted that the heart was on the right side and that the left lung consisted of three lobes.

ARNOLD GREENBLATT, M.B., Ch.B.
Victoria Central Hospital, Wallasey.

Anti-scarlatinal Serum in Erysipelas

A short time ago I was called in to attend a case of facial erysipelas; and, impressed with the unsatisfactory nature of "expectant" and local treatment in this disease, and the success of anti-streptococcal serum in scarlet fever, there seemed no reason why this—also a streptococcal infection—should not prove equally amenable. I therefore administered 20 c.cm. of Parke, Davis and Co.'s anti-scarlatinal serum by the intramuscular route. The effect was dramatic. The temperature and pulse fell, oedema, redness, and pain disappeared, and the general condition markedly improved. Five days later, owing to a relapse occurring, I injected a further 27 c.cm. of the same serum, the result being similarly effective, and in a couple of days the patient—a man of about 30—was convalescent. Though the serum treatment of scarlet fever is now firmly established, that of erysipelas seems, in this country, to have lagged behind. It has been more freely used on the Continent and in America, however. Thus in 1927 E. B. Schabetei reports eleven cases, ten of which were of the facial type, treated with anti-scarlatinal serum. All these cases cleared up well. The dose injected was 20 c.cm.[1] In this country M. S. Thomson has treated a number of cases of erysipelas with anti-scarlatinal serum.[2] D. Symmers and K. M. Lewis state that the routine use of antitoxin in erysipelas in the Bellevue Hospital, New York, resulted in a 30 per cent. reduction in the number of deaths.[3] The failure of antitoxin in about 5 per cent. of these cases is probably due to a difference of strain in the causal organism. The treatment certainly seems worthy of further trial.

W. H. BRAZIL, M.D., D.P.H.
Coventry.

REFERENCES

[1] *Münch. med. Woch.*, 1927, June 27th, p. 1015.
[2] *Brit. Journ. Derm. and Syph.*, November, 1927, p. 417.
[3] *Journ. Amer. Med. Assoc.*, 1932, xcix, 1082.

Reviews

CLINICAL TUBERCULOSIS

Clinical Tuberculosis,[1] edited by Dr. Benjamin Goldberg, is a two-volume work of some 1,500 pages in which every aspect of the disease is discussed in forty-eight chapters written by thirty-four different authors, including the editor. A review of a work of this nature is difficult. Variety of quality is unavoidable with multiple authorship, as also is lack of balance, unless the editorial hand has been very firm, and so variable is the material composing these volumes that a general review would be misleading, and space does not permit of a critical survey of each section. A reasonable way of opening a review is to ask what type of book did the authors or editor set out to produce, and does the result show that they have succeeded in their undertaking? If *Clinical Tuberculosis* was intended to be a textbook of the subject then the editor, at any rate, has not been successful—he has failed to control his team. The book is in fact a collection of forty-eight essays of widely varying quality covering the whole of clinical tuberculosis: it is a good example of the "curate's egg." The journey that the reader takes from Dr. Drolet's opening chapter on epidemiology in vol. i to Dr. Neymann's psychopathology at the end of vol. ii is an uneasy one, partly because of the diversity of the material, but mainly by reason of the rapid changes of tempo. At one time he can browse along at walking pace through pages of old-fashioned but perfectly sound verbosity which read like a book of instruction for junior probationer nurses; at another he whirls at express speed through short but stimulating chapters, and when pausing to examine these more closely finds stimulation rather than instruction. The actual English—or rather American—in which the book is written is extremely interesting as a demonstration of how rapidly the Americans are developing their own language: it is necessary to stop at some passages and make a translation in order to arrive at the real meaning.

Vol. i opens with just such an excellent and restrained review of the epidemiology of tuberculosis as one would expect from Dr. Drolet. This is an encouraging start, and after some rather sketchy but interesting pathology, in which, among others, Dr. Jaffe dwells more on hypothesis than fact, attention is arrested by a very useful chapter with a full bibliography headed "Pathologic Physiology of the Tuberculous Lung," by Dr. Coryllos. The inclusion of this subject of respiratory function is a good feature. From here the book begins to drone. There is a surprising amount of treatment in the chapter on classification; and in the following one, on *x*-ray findings, its author apparently introduces a new classification of his own. Dr. Mayer writes an excellent summary on "salt-restricted diets." Dr. Matson contributes four chapters on artificial pneumothorax treatment and its auxiliaries which are sound, as one would expect from a physician of his great experience, but they are somewhat spoiled by the inclusion of tables of apparent statistics that would not bear actuarial analysis. Dr. Coryllos again comes to the rescue with a good and provocative chapter on surgical selective apical collapse, and this is followed by a quieter but very sound one by Dr. Hedblom on thoracoplasty in general.

In the latter part of the second volume the general standard of the work relapses: the chapters seem to become more inconsequent in arrangement, and it is surprising to find that tuberculosis of the bones and joints is relegated to the position of the last chapter but one, and allotted only fifty-two pages out of over 1,500. In general it may be said that there is very little new in this book. Most of the authors have been content with an account of their own views and methods, and, sound though these may be, there are many others equally sound and generally accepted which are not mentioned. This limits the value of a work of this type, and at the same time gives it a parochial flavour.

[1] *Clinical Tuberculosis*. Edited by Benjamin Goldberg, M.D., F.A.C.P., F.A.P.H.A. Vols. i and ii. Philadelphia: F. A. Davis Company. 1935. (640 figures, 9 coloured plates. 22 dollars net.)

UROLOGY

Anyone who has followed Dr. Hinman's articles in the various urological and surgical journals would naturally expect something fresh and original when he came to write a book. His book, *The Principles and Practice of Urology*,[2] which has now appeared, amply fulfils this expectation. The work is highly original, and differs in many respects from the ordinary type of textbook on the market. It is written for the urologist, and presupposes a knowledge of the subject and of the recent literature. For this reason it should not be recommended to students, or to those who wish to work up the subject for examination purposes.

If we might separate the two parts of the title of this book we could say that Hinman is at his best when writing on the principles of urology, but when he comes down to the details of the practice he is rather vague and indecisive. The urologist will be deeply interested in the principles, and will appreciate the author's conception of the urinary tract as a series of organs intimately bound together, both functionally and anatomically, and of the influence of disease of one part of the tract upon the whole. The result of obstruction and the spread of infection are examples. These and similar conditions are dealt with in an admirable manner. When, however, he comes down to symptomatology and diagnosis the descriptions are somewhat inadequate. Mechanical and instrumental methods of diagnosis seem to supplant clinical examination. Of course, the latter methods are necessary to confirm a presumptive clinical diagnosis, but is it not better, both for the patient and for his doctor, that the clinical examination should be as exact as possible? On turning to treatment we find that operative details are entirely omitted. The author prepares us for this in his preface, where he states that they have been left out for want of space. Instead, we are given a list of the operations which have been either suggested or performed for the particular condition, without any indication of which method the author practises or considers most suitable. The "fully trained urologist" has his own ideas on this subject, but the student obtains no benefit from the list.

The book begins with an account of the comparative anatomy of urinary excretion and of reproduction. This is a brilliant biological essay, which will be read with pleasure and profit by all who are interested in the subject. It is followed by an account of the embryology of the genito-urinary tract, which is illustrated by several extremely ingenious and quite novel diagrams. The succeeding chapters describe the structure and function of the urinary organs, and in them anatomy and physiology are happily blended. The next section of the work is devoted to the examination of the patient and the deductions drawn therefrom. This concludes the first part.

The second part opens with an account of congenital abnormalities, which is followed by chapters on urinary obstruction, urogenital infections, and lithiasis. This is

[2] *The Principles and Practice of Urology*. By Frank Hinman, A.B., M.D. Philadelphia and London: W. B. Saunders Company. 1935. (Pp. 1,111; 513 figures. 45s. net.)

perhaps the best part of the book, and the account of the experimental and clinical problems of hydronephrosis is masterly. The last section is devoted to the special diseases of the different parts of the urogenital tract. It is purely clinical, and occupies about 400 pages. We feel sure, however, that many readers would prefer it if some of the early chapters had been omitted and more space devoted to this section. As it is, the descriptions are often scamped, especially in regard to symptomatology and treatment.

On the whole, the book can be recommended to any urologist who wants something out of the common. It is not a beginner's book, but is the product of a man who thinks clearly and has a deep interest in the scientific aspect of the subject.

ENDOCRINE THERAPY

In his booklet *The Status of Enzymes and Hormones in Therapy*[3] Dr. G. F. WALKER surveys briefly the present position of endocrine therapy. He postulates that successful endocrine therapy depends upon various factors, among which are the possession of stable and uniform preparations of which the correct dosage and mode of administration are known. His review of endocrine therapy shows that there are three classes of preparations: first, the standard medicaments such as thyroid, adrenaline, insulin, liver extract, and posterior pituitary extract; secondly, endocrines such as the parathyroid and suprarenal cortex, of which active but expensive preparations are available, whilst at the same time many inert preparations are marketed; and, thirdly, extracts of glands in which no active principle has been demonstrated, such as preparations of pineal, mammary, prostatic, and lymphatic substances. Discussing the third group of substances, he points out that there is apparently a steady sale for them, and yet one can search the *Index Medicus* from end to end without finding any convincing sign of clinical utility.

In his summary Dr. Walker states that "the final decision on the value of an organic or endocrine preparation rests with the clinician." His postulates and the results of his review indicate, however, that in practice clinical investigation is only likely to be profitable where a considerable volume of physiological information has been acquired. The review forms a short and readable summary of the status of a large proportion of the endocrine preparations—good, bad, and indifferent—that are on the market at present, and it should help the practitioner in judging the value of the advertising matter with which he is bombarded at every post.

TROPICAL SKIN ULCERATIONS

The Indian Tea Association, Calcutta, has published a booklet entitled *Ulcers in the Tea-Gardens*,[4] which has been compiled by Dr. CHRISTIE MCGUIRE, formerly a research worker in the dermatological department of the Calcutta School of Tropical Medicine. The author differentiates four types of ulcer—namely, the tropical phagedaenic, actinomycotic, hookworm, and the streptococcal and staphylococcal ulcers which cause impetigo and ecthyma. In each case the aetiology, diagnosis, and treatment is discussed, and the booklet should prove valuable to all who are brought into contact with these forms of disease. Tropical phagedaenic ulcer, alternatively known as Naga sore, Cachar sore, jungli ghao, frontier sore, and leg ulcer, appears sometimes in epidemic form, may affect 40 per cent. of a tea-garden community, and is very resistant to treatment. The author has found swabbing twice daily with a mixture of copper sulphate and carbolic acid very effective in 2,000 cases when other applications had proved valueless. Iodoform with bismuth subgallate is subsequently dusted over the ulcers, calomel being substituted for the iodoform in cases showing idiosyncrasy to the latter. In this way the average duration of treatment has been reduced from two or three months to a fortnight. The characteristic fusiform bacilli were invariably present. In the cutaneous actinomycotic ulcerations there is no invasion of the deeper parts and no granule production. When it involves the interdigital areas of the feet, painting with a 2 per cent. solution of gentian-violet acts as a specific. When plantar in distribution, the application of 20 per cent. formalin is invariably successful, and this fluid may be used confidently also as a prophylactic. Hookworm ulcers are best treated by 2 per cent. gentian-violet when in the early itching and vesicular stage. When the vesicles have become infected by pyogenic cocci, and are accompanied by ulcers, eczematous eruptions, or lymphangitis, lint soaked in 1 in 1,000 acriflavine solution is applied three times daily to obtain the best all-round results. Impetigo and ecthyma are very prevalent in the tea-gardens of Assam and Bengal, especially during the monsoon months. In many cases the infection appears to be staphylococcal in nature, though a streptococcal aetiology has been claimed. If the impetiginous condition extends beyond the epidermis it is termed ecthyma, and scarring results. The standard treatment of applying unguentum hydrargyri ammoniatum twice daily has given the best results in uncomplicated cases, and the ointment is a useful prophylactic. When the lesions are eczematous the use of an acriflavine lotion is preferable. The author commends also a mixed streptococcal and staphylococcal vaccine.

HEART DISEASE IN THE TROPICS

Clinical studies based on personal observation have an attractive quality, and, relying on this receptive attitude in his audience, Dr. H. O. GUNEWARDENE, in his *Heart Disease in the Tropics*,[5] has set forth his experiences in detail—on the whole, we think, in unnecessary detail, in so far at least as individual records are concerned. His purpose is to draw attention to the influence of the Tropics on the incidence and course of cardiac disease, and to add some suggestions relative to modifications in treatment required by the special characters of the environment. Some of his observations are of interest, and will doubtless prove helpful to practitioners who have to meet the circumstances which he contemplates. He places very considerable emphasis on ankylostoma infection as a cause of cardiac disability, more particularly in pregnancy, and he finds also that high blood pressure has a large responsibility for cardiac failure. On the other hand, though he challenges the statement that rheumatic fever does not occur in the Tropics, he admits that this disease is relatively infrequent, that it is comparatively mild in type, and that not often does it produce cardiac valvular disease. In reference to the latter possibility Dr. Gunewardene is satisfied that in individual instances damage to the valvular structures may be repaired, and he records cases in which the physical signs of such lesions—for example, diastolic murmurs—have completely disappeared. The rheumatism of the Tropics shows, he says, little tendency to recurrence, and he suggests that the climatic conditions of Ceylon have a favourable influence

[3] *The Status of Enzymes and Hormones in Therapy*. By G. F. Walker, M.D., M.R.C.P. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1935. (Pp. 48. 2s. net.)

[4] Obtainable from the Secretary, Indian Tea Association, Royal Exchange, Calcutta. (1 rupee.)

[5] *Heart Disease in the Tropics*. By H. O. Gunewardene, M.B., B.S., D.M.R.E. Calcutta and London: Butterworth and Co. (India) Ltd. 1935. (Pp. 101; illustrated. 8s. 6d. net.)

in this direction. Diphtheria and syphilis are also mentioned as relatively mild in tropical countries. The chapters on diabetes and on blood pressure are hardly relevant to the title of the book, and the section on treatment, except for the remark that iodide of potassium "is badly tolerated by the native population," follows conventional lines. Altogether the contribution is not a very considerable one, and hardly justifies the hundred pages which it covers.

Notes on Books

Over eight years have passed since Professor LYDIA J. ROBERTS first produced her *Nutrition Work With Children*, now republished in a revised and enlarged edition (Cambridge University Press, 18s.). Much has happened during this period to cause considerable revision to be necessary. The complexity of the subject is easily recognized from a study of Chapters VI to IX, which cover the causes, physical effects, prevention, and treatment of malnutrition in children. Any enthusiast who imagines that it is an easy matter to detect the malnourished child should study this book. An interesting point mentioned is that one effect of the economic situation in America has been the rise in the percentage of New York school children diagnosed as malnourished from 13.5 for the years 1927–29 to 20.1 in the years 1930–32.

In elaborating into book form his clinical teaching in the Paris School of Stomatology, under the title *Sémiologie des Affections de la Bouche et des Dents*,[6] Dr. CHARLES RUPPE begins each chapter with a summary of the fundamental facts necessary for the understanding of the local pathological conditions; next he enumerates the methods of investigation; and finally analyses in each case the variations of symptoms which guide to a diagnosis. In the later chapters such conditions as cervical adenitis and neuralgias, not strictly mouth diseases but possibly dependent on them, are dealt with. Oral sepsis occupies a final and rather curt chapter. Throughout the book, indeed, one notes that the influence of general bodily conditions on the teeth bulks far more largely in the minds of French doctors and dentists than the converse. As an aid to busy practitioners rare conditions are described in small print. Treatment is not entered on. Undoubtedly the book will be found to be a great aid to diagnosis, if only by recalling all the possible solutions of the problem in hand.

The increasing number of social surveys, general or local, which have been taken of recent years have afforded an opportunity for Mr. A. F. WELLS to write a small book surveying such surveys, examining their purpose and methods, and indicating broadly the light that the kind of information they elicit can throw upon contemporary social and economic problems. The Sir Halley Stewart Trustees asked the British Institute of Social Service to undertake a review and appraisement of the work that had already been done by social surveys. A report was presented to the trustees a year ago, and the substance of that report, omitting the specific recommendations made in it, has been expanded by Mr. Wells, the investigator, into the booklet now published under the title of *The Local Social Survey in Great Britain* (G. Allen and Unwin, 5s.). It has a preface by Professor A. M. Carr-Saunders. It should prove helpful to all those interested in this movement, for it is comprehensive in character, dealing with the subject under the headings of "Aims and Scope," "Method," "Organization," and "Value"; and, moreover, it concludes with a very useful bibliography, extending from the original work of Charles Booth, Arthur Sherwell, and B. S. Rowntree to the reports made last year with regard to Merseyside by Mr. Caradog Jones, and to the Pilgrim Trust on Becontree and Dagenham by Mr. Terence Young. There is one considerable omission from Mr. Wells's study which perhaps deserves notice. He makes no reference to surveys of a psychological character, such as those undertaken by Dr. Lewis for the Interdepartmental Committee on Mental Deficiency, by Dr. Cyril Burt in London, and that now proceeding in a western town on behalf of the Burden Mental Research Trust. These are, it is true, of a somewhat different character, but they have a social importance which must be recognized.

Attempted suicide has not been studied much in this country since Dr. Norwood East's analysis of 1,000 cases in 1913. Miss ETHEL STONEMAN has investigated in great detail eighty-seven cases of persons admitted to the Royal Infirmary, Edinburgh, after attempts at suicide, and has written a survey of the many factors, physical and mental, that seem to underlie the act. She had the generous co-operation of the chief constable, and of the professors of psychiatry and the dean of medicine of the University, and her small book[7] is a serious and valuable contribution to knowledge of a grave social problem. She gives a full account of six of the cases, and refers to many more to illustrate her points, which are soundly argued. Her work shows no trace of the sentimentality which is unfortunately suggested by the title and the cloud design of the paper cover.

[6] *Sémiologie des Affections de la Bouche et des Dents.* By Dr. Charles Ruppe. Paris: Masson et Cie. 1935. (Pp. 271; 53 figures. 32 fr.)

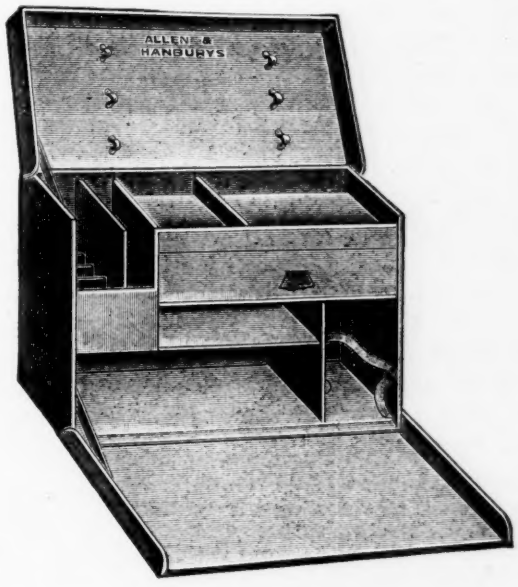
[7] *Halfway to the Hereafter.* An Inquiry into the Motivation of Attempted Suicide. By Ethel Turner Stoneman, B.A., Ph.D. Perth (West Australia): T. F. Christie, Ltd. 1935. (Pp. 96; 1 diagram.)

Preparations and Appliances

A PORTABLE CASE FOR GENERAL PRACTITIONERS

Dr. HOWARD M. TOOP (Sutton, Surrey) writes:

The case illustrated has been designed to meet a much-felt want—a general practitioner's case—which will contain all that a medical man may require for an average day's



work. It is compact, but provides space so that things are ready to hand easily and quietly. Compartments are provided for sphygmomanometer, electric diagnostic outfit, spirit-proof case of instruments and spirit-proof hypodermic outfit (both standing upright), drawer for dressings, and two trays for small instruments, ampoules, etc. There is also space for four 8-oz. bottles to hold anaesthetics, iodine, or spirit. The front falls down to form a small table, and is held rigid by supports. The lid is provided with clips for catheters.

The case is not unduly heavy—weighing about 12 lb. empty. It has been made for me by Messrs. Allen & Hanburys Ltd., 48, Wigmore Street, W.1.

British Medical Journal

SATURDAY, NOVEMBER 2nd, 1935

THE FUNCTIONS OF THE M.O.H.

In his recent presidential address to the Society of Medical Officers of Health Dr. W. G. Savage chose a theme of very real national importance, and made a number of observations and suggestions of the greatest interest at the present time both to the public and to the medical profession. He was concerned with the increasing tendency for a medical officer of health in the larger areas to become perforce a pure administrator —"a master of experts in all subjects but expert in nothing himself." He contrasted this with the true direction of development which seems to him most desirable, which would make such medical officer a scientific expert in preventing disease and promoting health—in fact, an effective director of public health. While the Local Government Act of 1929 is recognized as being a great measure of reform in public health with regard both to its methods and to its administration, it has had the undoubted effect of imposing upon the chief medical officers in the public health service an immense additional load of purely administrative duties. These duties, though widening their interests and powers, have immersed them in details of organization and in a multitude of small points of a technical but not strictly medical character, so that they have little leisure for productive thought and for a wide and wise survey of the communal and preventive aspects of medicine.

The unification of public health administration in suitable areas of local government is desirable in itself, and has now for many years been one of the considered and professed objects aimed at by the British Medical Association. Such unification with regard to all branches of the public health service, however, should by no means relegate the medical officer of health to a position in which he would be a mere vehicle for giving effect to decisions and directions of local committees and Government departments, or even for making a machine work smoothly and effectively. It should, on the contrary, greatly enhance his value and enlarge his opportunities, so that he would be a constant inspirer of efforts to preserve and enhance the health of the community, and an expert helper in directing those efforts into channels in which they would have the greatest effect and in applying methods of the most suitable and beneficial character. To these ends he must not only be a man of proper and sufficient calibre in himself, but he must have continued opportunity of contact with his fellow workers, professional and lay, of acquaintance with the results of clinical experience and scientific research, and of thought and study directed to social and medical, as well as to administrative, problems. He should not be primarily a man in an office, but a live and active practitioner of medicine in its preventive and constructive aspects in the interest of the community as a whole.

It should be clear that if he is effectively to occupy such a position the medical officer of health must be relieved of some of the duties which at present, in many parts of the country if not in all, he personally performs. There are at least two directions in which this relief can be afforded. More effective and responsible lay help, not only clerical but technical also, can be given him ; and much, if not almost all, of the clinical work for which he is directly responsible can be properly and even more effectively done by the private medical practitioners—whether general or in more specialized branches of practice—of the neighbourhood. The organization and administration of the work of all these helpers would, naturally, remain with the medical officer of health. In his presidential address Dr. Savage places perhaps the greater emphasis on the former of these methods of relief. In its policy the British Medical Association has directed most attention to the latter. Both are important, and each has incidental or additional advantages of the utmost value. Public health is not a matter which concerns the medical profession only ; and, though it is probably always advantageous that the head of the team of workers should be the medical officer, it should be a team including a considerable variety of skilled lay assistance. In the other direction it would break down one of the most lamentable features of public health administration in many localities, and even more generally in some spheres of work—namely, the separation (perhaps occasionally amounting to some antagonism) between the medical staff engaged officially in the public health service and the main body of the profession not so engaged. The volume of clinical work required by the public health service is great and is growing. The amount of preventive work being done by private medical practitioners day by day is really immense, though not yet fully recognized. There is need for a reminder that communal requirements are being served and met by the one body of practitioners as well as by the other, and that the preventive and the curative aspects of medicine cannot in practice be properly distinguished. Consciously to harness the work of the whole medical profession of every area in a united and constant effort towards the enhancement of the public health would be a great achievement. It is perhaps gradually being accomplished ; but a due conception of the position, the responsibility, and functions of a medical officer of health as Dr. Savage and the British Medical Association envisage them would help in hastening its realization. As Dr. Savage puts it, the practice of public health would become more scientific in outlook and more effective in operation.

MEDICAL ASSESSORS

One of the solutions most frequently proposed for the problem of the lack of appreciation by the courts of medical evidence is to appoint a medical assessor to sit with the judge. A writer in the *Law Journal*[1] makes a convincing and interesting case for the practice of using a medical assessor. He seems to be well qualified to give an opinion, for, in addition to holding a Cambridge degree in medicine, he practised for over ten years at the Bar and is now a solicitor. He points out that the medical witness can only perform his function properly in so far as he impresses the inexperienced lay minds of the judge and jury with his evidence. A statement which would completely convince an impartial medical man may go for nothing in a court of law. Very often the jury will pay far more attention to a comparatively inexperienced medical man than to a recognized authority, for the simple reason that a doctor with only slight knowledge of the matter under inquiry is in closer contact with the lay mind ; he is likely to be free from the hesitations and qualifications which a man more deeply versed in the subject feels bound to make, and to deliver an opinion which the jury can instantly understand and appreciate. He will say, for instance, " Of course the knee-joint must be affected, since the plaintiff has pain in it." A much more learned medical man who tries to explain the mechanism of referred pain and symptoms of disordered function receives, on the other hand, scant sympathy. If a medical assessor were appointed, he could help the court to give proper weight to the otherwise unintelligible medical evidence.

The author of the article, in saying that a High Court judge cannot invite a medical assessor to sit with him, has overlooked the provisions of the Supreme Court of Judicature Act, 1925, Section 98 of which empowers the High Court or Court of Appeal, if it thinks expedient, to call in the aid of one or more specially qualified assessors to try the action with their assistance. The power is there if the judges like to use it, and, in fact, the Admiralty courts would find it almost impossible to do their work without nautical assessors. The judges of the King's Bench have, however, never taken kindly to the proposal that they should sit with a medical assessor, or, indeed, any other kind of assessor, though occasionally a judge in a running-down case invites an engineering assessor to sit with him.

It is an unpleasant fact, which must be faced, that the standing of the medical profession in the law courts, though by no means low, is not as high as it ought to be and as it could have been if medical witnesses as a whole had shown themselves on the one hand more in sympathy with the mind of the layman, and on the other hand less inclined to take sides or appear to do so. The result has been a certain impatience with exponents of medical knowledge and a feeling in court that judges and counsel between them are more likely to arrive at the truth by the light of their general knowledge and intelligence. It is incumbent upon all doctors who give evidence in the courts to do their utmost to remove this feeling against medical practitioners in general. If they succeed, the result might conceivably be a greater readiness to appoint medical assessors, but this would be a minor advantage compared with the general benefit which would spring from greater mutual confidence between the professions of medicine and law.

[1] 1935, lxxx, 156 (September 14th).

THE PARLIAMENTARY SESSION

The Parliament which in the latter part of 1931 carried out its mandate to retrench by "cuts," including reductions in the remuneration of national health insurance practitioners, was able by the Budget of last spring to restore the last of these. It also regained the pre-1931 standard of generosity in expenditure on public health and medical research. In the session which ended on October 25th Government and Opposition alike discussed problems of health and population on their merits and with full perception of their gravity. In opening the Budget Mr. Neville Chamberlain warned the House of Commons that it must ponder on the problems which will result from a diminishing population. The Labour Opposition chose maternal mortality as the subject for the chief debate on the Consolidated Fund Bill, and the discussion of the Health Estimates for once was chiefly concerned with health, Sir Kingsley Wood leading with a review of twenty-five years' progress in the national health. The House of Lords had fewer openings for talk on health, but gave careful and sympathetic attention to the Voluntary Hospitals (Paying Patients) Bill sponsored by Lord Luke. That measure, unfortunately, was dropped in the Commons from lack of time. An Osteopaths Bill failed to find acceptance from a House of Lords Committee. The chief statute of the year, the Government of India Act, was so vast that its provisions about health and the Indian medical services were almost overlooked. In a brief debate the House of Commons concurred in the Government decision that public health and sanitation should be left to the provincial legislatures of India and not made federal subjects. The future of the Burma medical services was also discussed.

Other major measures introduced by the Government and passed into law during the session were the Housing Bill, implementing the programme for replacement of slums, the National Health and Contributory Pensions Bill, continuing some health insurance benefits to persons long unemployed, the Ribbon Development Act, and the Durham University Act. The Scottish Acts included the Housing (Scotland) Act, and the Criminal Lunacy (Scotland) Act, on the latter of which friends of civil liberty sought and received reassurances. On the Department of Health (Scotland) Estimates the work of the Highlands and Islands Medical Service was duly praised. The Minister presenting the Education Estimates for England and Wales spoke of a new effort to extend and co-ordinate the physical training of the young. On the Army Estimates Sir Francis

Fremantle drew attention to the shortage of medical entrants for the R.A.M.C. The discussion of maternal mortality drew speeches from Dr. O'Donovan, Captain Elliston, Mr. Rhys Davies, and Mr. Shakespeare, and showed the deep concern the House feels about this problem. There were other debates on nutrition in the distressed areas, on the price of milk supplied to hospitals, and on the precautions advised by the Government against air raids. Road accidents and the steps taken by the Ministry of Transport to reduce them were never long unmentioned on the question paper. During the session the new Poisons List was laid on the Table of both Houses and received parliamentary sanction. With Sir Francis Fremantle as chairman and Dr. Howitt as honorary secretary, the Parliamentary Medical Committee was active throughout the session, as indeed throughout the Parliament. Never before has the medical profession been represented in Parliament with so much unity and efficiency. And never, according to competent observers, has Parliament shown less of the old suspicion of "the doctors."

A MUCO-CILIARY PARTNERSHIP

Sir StClair Thomson chose a seasonable topic for his Semon Lecture (of which we print an abstract on another page) because with the advance of autumn "the defences of the air passages" become a matter of immediate concern to the practitioner of medicine. More than forty years ago Sir StClair put on record the outcome of a joint investigation with Professor R. T. Hewlett. They satisfied themselves that the presence of pathogenic micro-organisms in the interior of the nose proper is so infrequent as to be exceptional; and concluded that the inspired air is sterilized not only before it reaches the alveoli and before it reaches the trachea, but that almost all the micro-organisms of the air are arrested before they reach even the nasopharynx. This process takes place largely in the vestibules, where the germs are enmeshed in the mucus-moistened vibrissae. Caught up in the nasal mucus, their activities come to a stop, and they are ejected by the action of the ciliated epithelium. The importance of the nasal cilia, to which StClair Thomson drew attention in the 'nineties, has come once again into the foreground during the past decade. Two interdependent factors are recognized as forming a first line of defence against microbial forces attacking the respiratory system—an adequate secretion of healthy mucus and efficient action of the cilia. Neither mucus nor ciliated epithelium is effective alone. If it were not kept constantly on the move by ciliary action the nasal mucous secretion would stagnate and become useless. On the other hand, cilia without mucus would dry up and cease to protect the air passages below. How important, then, to study the physiology of ciliary movement, and the effect upon it of external agents, remedial or injurious, its reaction to changes of temperature and to variations in the general condition of the body. From physiological and anatomical considerations the lecturer passed by way of biochemistry to the accessory mechanisms within the body which reinforce the front-line defences of the airway. He recalled a fact well known to laboratory workers, that the local defences themselves are so effective that it is difficult to produce pulmonary infections by inhalation or insufflation of pathogenic germs in normal conditions. Among other factors the *p*H reaction of the nasal mucous membrane appears to play some part in favouring or hindering ciliary action, and Tweedie has suggested that whatever may be the initial cause of the common cold, it would appear to be something which induces an abnormal alkaline nasal mucus. Coming to the effects of drugs on ciliary movement Sir StClair Thomson noted the difficulty of determining on which of the two main defences—mucus or cilia—a drug is acting, and whether it may be having a beneficial effect on one of the two partners and not on the other. In this matter, as elsewhere, laboratory findings must be co-ordinated with, and controlled by, clinical experience. From the ciliated epithelium and the mucous secretion of the nose the lecturer carried his tour of investigation of the defences by way of the nasopharynx and pharynx to the larynx (which by its closure protects the lower passages from invasion), to the trachea and bronchi, and finally to the alveolar cells, lowest and last defence against aerial infection. The chief purpose of the lecture was to show the complexity and perfection of these defences, to survey their activities and their compensatory interactions, and last, but by no means least, to encourage interest in normal processes as a first step towards the study of disease. The complaint is often heard that specialism robs general medicine and gives little or nothing in return. This year's Semon Lecture suggests that in respect of the defences of the air passages laryngology is now handing back a well-cultivated piece of ground to general medicine.

VITAMIN CONCENTRATES

A few years ago the need for an adequate supply of vitamins in the diet was a new and unfamiliar idea. There was, indeed, some difficulty in convincing the medical profession and the public that vitamin-deficient diets were a serious cause of disease. To-day there is danger in another direction, because the uncritical enthusiasm of the public for some new thing is leading to a belief that vitamin concentrates are cures for all ills. Needless to say, this attitude has been encouraged by the manner in which many of these substances have been advertised. The use of vitamin concentrates has been the subject of a recent report by the council on pharmacy and chemistry of the American Medical Association and of an editorial in their journal. The report points out that mixtures of vitamin concentrates are open to various criticisms. It is difficult to prepare a stable preparation of any single vitamin concentrate, and every extra substance that is added to such a preparation increases the chance of favouring some reaction that will cause inactivation. Moreover, there is evidence that in some cases large doses of one vitamin may antagonize the action of another. Finally, since multiple vitamin deficiencies are relatively rare it is unusual for there to be any sound reason for the administration of mixtures of several vitamin concentrates. The *Journal of the American Medical Association*, commenting editorially on the report referred to above, points out that irrational vitamin therapy is favoured by the fact that a group of dissimilar and

unrelated substances have, by a historical accident, been given a common name. The suggestion is made that the alphabetical vitamin nomenclature, which was originally put forward as a provisional measure, has outlived its usefulness and should be discarded. The advances of biochemistry during the last few years have shown that the vitamins are a group of completely unrelated chemical substances, and since the compositions of many of them are known it would seem desirable to call them by separate chemical names. The public will probably grumble at the perversity of scientists in changing a nomenclature as soon as it has got thoroughly established in popular usage, and in fact the term "vitamin" will take a very long time to disappear because it is so convenient. Such convenience and simplicity is, however, a disadvantage in certain respects, because the nomenclature vitamins A, B, C, D, and E suggests a non-existent relation, and encourages what the American report graphically terms "shot-gun vitamin therapy." It is so easy to announce that a preparation contains all the vitamins from A to E; and by adding together all the effects that can be produced by a shortage of each or all, a list of therapeutic indications for the mixture can be obtained which covers a considerable proportion of known diseases. The article referred to appeals for a more rational approach to vitamin therapy, and in this respect the following points appear to be deserving of special attention. A properly balanced diet is the natural method of supplying vitamins, and it is better to adjust the diet than to add vitamin concentrates to one that is unsatisfactory. When any particular vitamin is needed it should be given in adequate amounts, and only those concentrates should be used whose potency is known. International units of vitamin activity have been established, and the statement that a preparation contains a certain concentration of vitamin units is a claim that can be tested, but the statement that a preparation is "very rich in vitamins" means little or nothing. There is, therefore, every advantage in using preparations whose activity is stated in definite units.

ALUMINIUM IN FOOD

The Ministry of Health has just published a report on aluminium in food, written by Dr. G. W. Monier-Williams, who is in charge of the Ministry's Chemical Laboratory.[1] The aluminium controversy is one of a kind rarely settled on its merits, and there has been a tendency to pay too much attention to arguments against aluminium because large financial interests are in favour of it. The last word, however, now seems to have been said, and the opponents, if their sense of humour is sufficiently strong, will surely feel they must give up the ghost. For the Ministry says that aluminium is safe, and when the Ministry comes down from the fence on which it so often sits we may be sure there is no respectable opinion left on the other side. The Ministry is of course wise to avoid controversy when there is much uncontroversial work it can do. The report is similar to earlier reports which have appeared, though it deals in more detail with chemical methods of estimating aluminium. While deciding that aluminium cooking vessels are safe, Dr. Monier-Williams thinks aluminium baking powder is undesirable on the ground that "it is a safe rule to exclude from food as far as possible anything which may reasonably come under suspicion of causing harm." This seems a poor reason for his conclusion, for there are very few foods quite safe from the attack of the health faddist. Nevertheless, the careful and restrained tone of his report should reassure all those who may have felt uneasy at a more cavalier approach to the problem.

[1] Reports on Public Health and Medical Subjects, No. 78. Aluminium in Food. By G. W. Monier-Williams, M.A., Ph.D., F.I.C. H.M. Stationery Office. (9d.)

AN AMBULANCE SERVICE FOR ETHIOPIA

On October 19th (p. 732) we announced that medical officers were required for service in Abyssinia. Since then considerable progress has been made in the organization of the British Ambulance Service in Ethiopia. The project had its origin some months ago in a committee having personal knowledge of Ethiopia, who visualized the appalling prospect with which the Abyssinian troops would be faced in case of war. The B.A.S.E. has been the outcome, and it has the official recognition of the British and Ethiopian Governments under Articles 10 and 11 of the Geneva Convention. Permits have been obtained to recruit native personnel in the East African colonies, and advance agents were sent some time ago to Ethiopia and Kenya. The original aim of the expedition was the provision of a mobile field hospital with four doctors, four subordinate European medical personnel, and about forty natives, to which were to be attached the necessary European transport officers, with native staffs. A casualty clearing station with the same personnel was also contemplated; Mr. J. M. Melly, who has considerable experience of Ethiopia, to be in charge of both units. The estimated cost of maintaining this, the first expedition, in the field for three months was £35,000, while an additional £10,000 would be required for a further casualty clearing station. On October 21st the British Red Cross Society announced its collaboration with the B.A.S.E., to which it has now handed over the fruits of its appeal and offered the assistance of four members—General Sir Harold Fawcus, General O. L. Robinson, Mr. F. C. Davis, and one from the Scottish branch—to act on the executive committee. The B.A.S.E., whose own appeal brought in £9,000, has at its disposal, at the time of going to press, a total of some £19,000. It has been decided, rather than wait to send out the original unit planned, to dispatch in the very near future a smaller unit, to act as a casualty clearing station. The first shipment of material will probably occur in about ten days, the remainder, with personnel, to follow about a week later under Mr. Melly's charge. The unit will consist of six doctors, three transport officers, six British N.C.O.'s, and twenty-four native trained medical dressers, who have been recruited from the medical missions in Kenya and Uganda by Colonel J. M. Llewellyn, advance officer in Nairobi. These native dressers will meet the unit at Berbera, the British contingent having been shipped there from Aden. The complete organization will then go by lorry via Hargeisa and Jigjiga to Harrar, and so eastwards towards the fighting zone on the southern front: £15,000 will be the cost of maintenance and transport in the field for three months. Should suffi-

cient funds be available this unit will be duplicated in the future, probably to act as a field hospital some hundred miles behind the line. There have been many candidates for the medical posts, and a selection committee, which has already chosen two, will have made its final choice by the end of this week. More doctors are still wanted, however, for the field hospital, which will be sent out as soon as funds allow. In the meantime the Swedish Red Cross Ambulance Service has sent out two detachments to Abyssinia, including six doctors, two of whom are bacteriologists. Equipment comprises five motor ambulances and two railway trucks of stores, while a Swedish aviator has placed his private aeroplane and services at the disposal of this mission.

FEVER THERAPY

Five-and-twenty years is such a convenient period, and the last quarter of a century has been so fruitful in many directions, that it is not surprising if the authors of presidential addresses seize the inspiration of the silver jubilee to review the progress of their subject since 1910. The latest to do so was Dr. C. B. Heald from the chair of the Section of Physical Medicine of the Royal Society of Medicine (whose address is summarized on another page), and in the case of electrotherapy the year 1910 makes a very good jumping-off point, not least because it was the year in which Bergonié presented at the congress of Toulouse his world-famous faradic apparatus. At that time much of the installation now to be found in a well-equipped physical medicine department in a modern hospital was in embryo, and, as is evident from contemporary literature, ideas on the subject were fermenting. Dr. Heald spoke of progress in the application of the direct current, of the faradic and allied currents, and of ultra-violet light, but chiefly he devoted his address to the work on the induction of artificial fever, a subject in which he has been observing and experimenting for several years. He compared the results obtained with a number of different types of apparatus, including the modern short-wave method and the so-called inductotherm, but he pointed out that it was possible with heat cradles little different from the types which have been available for many years to influence the heat-regulating mechanism of the body. In America experiments in hyperpyrexia have gone much further than in this country,[1] alike as regards field of application, duration of treatment, and height of pyrexia. In that country the general preference is for what is known as the Kettering hypertherm, consisting of an insulating chamber large enough to contain a comfortable air mattress and at the same time to house the air-conditioning apparatus in a small space. The mechanism of fever induction with the Kettering hypertherm depends largely upon the heat transfer by conduction from the circulating heated air and the heated air mattress, and this factor, combined with prevention of normal heat loss from the body by radiation and evaporation, is responsible for the elevation of the body temperature and its maintenance at a high level. At a conference in Ohio in May of this year the general tenor of the discussions was to the effect that hyperpyrexia is particularly beneficial in all stages of gonorrhoea, asthma, and neuritis, and to a less degree in neurosyphilis. For example, Desjardins of the Mayo Clinic reported forty-five cases of gonorrhoea, forty of which were cured, and five improved. Desjardins insisted on 106° F. for six hours, repeating up to eight or ten hours if discharge remains positive. Other workers from the Mayo Clinic—Hench, Slocumb, and Popp—reported on 147 cases of chronic infectious arthritis, fifteen of which became symptomless, and thirty-seven showed marked and forty-nine moderate improvement. Of twenty-four cases of gonorrhoeal arthritis twenty-two became free of symptoms, and of seventy-four cases of senescent arthritis there was improvement in forty ; but it should be added that the follow-up of these observers' cases from eight to eleven months later showed 62 per cent. to have relapsed. Many workers on general paralysis of the insane, tabes dorsalis, and other neurosyphilitic diseases reported marked improvement in from 40 to 60 per cent. of cases, while neuritis and myositis yielded favourable results, but in numbers too small to be of real value. Dr. Heald himself did not join in the advocacy of very high temperatures, which put a strain on the fortitude, condition, and constitution of the patient, but he believed that much clinical benefit could be secured by pyrexial treatments at moderate temperatures of 101° to 103° F. True hyperpyrexia treatments should only be given for ailments where the outlook is either hopeless or chronically distressing, though he admitted some modification of this opinion if it could be established that in cases of acute gonorrhoea one full treatment was effective. His point that pyrexial treatments where the temperature is raised above 101° F. should be administered only by a qualified practitioner working with a suitably trained nurse deserves to be noted.

[1] See also annotation in *British Medical Journal*, 1935, ii, 217.

CORONARY ARTERIOSCLEROSIS

It is said that the classical picture of a disease is rarely seen in practice, and in the few years that have elapsed since knowledge of myocardial infarction became widely diffused it has become apparent that the so-called typical picture of the condition is very often lacking. For example, it may show itself as congestive heart failure, as acute pulmonary oedema, or as attacks of faintness, pain being entirely absent. In the belief that light might be shed on the symptoms associated with myocardial infarction and coronary arteriosclerosis by a study primarily pathological and correlated later with clinical and electrocardiographic findings, O. Saphir, W. S. Priest, W. M. Hamburger, and L. N. Katz[1] have examined thirty-four fresh hearts in which there were advanced coronary sclerosis, coronary thrombosis, and myocardial lesions. In every specimen the lesions were multiple—that is, the main vessels showed more than one occlusion or severe vascular narrowings ; the smaller vessels, however, either were normal or showed slight intimal thickening. In every one of the thirty-two instances in which thrombi occurred they were located on atheromatous ulcers. The authors found the anterior descending branch of the left coronary to be the most commonly diseased—thus confirming the generally accepted view, but one which has been disputed. Histology showed that a

[1] *Amer. Heart Journ.*, June, 1935, p. 567 ; August, 1935, p. 762.

thrombus might consist of two distinct portions, one old and one recent, indicating that a mural thrombus can arise which only partially occludes the vessel lumen, the obstruction being completed at a later date by a second clot. In the hearts studied (which were taken from patients whose ages ranged between 45 and 76 years) myocardial infarction was always associated with lesions—either extreme narrowing or complete occlusion—in more than one main vessel supplying the area, and in the absence of complete occlusion more than two main branches were extremely narrowed. On the other hand one branch was completely occluded in several instances without infarction. Infarction was sometimes found when there had been no clinical symptom to suggest it, nor had congestive failure developed. This raises again the relation between the coronary blood flow and cardiac pain, for although myocardial ischaemia appears to be the essential cause, there is presumably some other factor which determines the production of pain, and this may well be the sensitivity of the nervous system. From a comparison of the pathological findings with the electrocardiograms, the authors conclude that the tracing may be misleading in a variety of ways ; for example, in failing to show characteristic changes of infarction when it is present, and vice versa. In this connexion it may be recalled that changes identical with those of recent infarction have been demonstrated as a transient phenomenon during effort angina. It was also noted that the electrocardiogram was not reliable as a guide to the age of the infarction, nor, in this series, could a precise relation between the site of infarction and the nature of the changes in the curves be discovered ; and it is suggested that the condition of the heart and its position prior to infarction may have some influence on these. A similar explanation has previously been offered for the variable results in experimental bundle-branch lesions and extrasystoles. The functional changes which can take place in heart muscle as a result of vascular sclerosis, and apart from any recognizable structural lesions, are considered to be responsible for electrocardiographic changes resembling those of infarction and fibrosis. In a review of the clinical picture of coronary occlusion it is pointed out that symptoms may be atypical in every respect: for example, in only four out of thirty-two instances of coronary thrombosis was there a history of pain at rest ; while its localization, duration, and severity were found unreliable guides in diagnosis. On the other hand, the authors were able to demonstrate that attacks of cardiac pain presenting the characteristics associated with myocardial infarction might occur in the absence of this lesion. The selection of material in this investigation was made on a pathological basis, and it was found that in some cases where cardiac lesions had not been suspected clinically, attention had not been specially directed to this organ. In spite of this slight disadvantage the results emphasize the complex symptomatology of coronary lesions and the need of recognizing the variety of symptoms other than severe retrosternal pain, to which myocardial infarction may give rise.

Professor R. M. F. Picken, who has held the chair of preventive medicine in the Welsh National School of Medicine since 1933, has been appointed by the Health Organization of the League of Nations as the representative of Great Britain on an American study tour. Six countries are participating. Each member represents various interests in the field of preventive medicine. The study tour begins at Washington on November 4th and ends at New York on December 7th. The health services generally of the United States will be discussed, and the places to be visited include Washington, Baltimore, Knoxville, Nashville, St. Louis, Chicago, Cincinnati, Detroit, Philadelphia, Boston, New Haven, and New York City.

Dr. Thomas Shirley Hele, university lecturer in biochemistry and Fellow of Emmanuel, has been elected Master of Emmanuel College, Cambridge. He was a B.M.A. research student in 1907–8 and graduated M.D. in 1911.

As the General Election has been fixed for November 14th the Annual Panel Conference has been postponed until Thursday, December 5th, at 10 a.m.

We regret to announce the death of Mr. W. G. Richardson, consulting surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne.

MEDICAL CANDIDATES AT THE GENERAL ELECTION

The following members of the medical profession have been nominated as candidates for election to the House of Commons at the forthcoming General Election on Thursday, November 14th.

ENGLAND

London Boroughs

*Sir Henry Jackson (C.), Wandsworth Central.
*Dr. W. J. O'Donovan (C.), Stepney (Mile End).
*Dr. A. Salter (Lab.), Bermondsey West.

English Boroughs

Dr. C. W. Brook (Lab.), Smethwick.
Mr. Somerville Hastings (Lab.), Reading.
*Dr. A. B. Howitt (C.), Reading.
*Dr. J. W. Leech (C.), Newcastle-upon-Tyne (West).
Dr. R. A. Lyster (Lab.), Preston.
Dr. S. Segal (Lab.), Tynemouth.
Dr. Edith Summerskill (Lab.), Bury.

English Counties

*The Right Hon. C. Addison (Lab.), Wiltshire (Swindon).
*Sir Francis Fremantle (C.), Hertford (St. Albans).
*Dr. H. C. Haslam (C.), Lincoln and Rutland (Horncastle).
*Sir John V. Worthington (Nat. Lab.), Gloucester (Forest of Dean).

WALES

Welsh Counties

Dr. L. Haden Guest (Lab.), Brecon and Radnor.
*Dr. J. H. Morris-Jones (L. Nat.), Denbigh.
*Dr. J. H. Williams (Lab.), Carmarthen (Llanelly).

SCOTLAND

Scottish Burghs

*The Right Hon. W. E. Elliot (C.), Glasgow (Kelvingrove).

THE UNIVERSITIES

*Sir Ernest Graham-Little (Ind.), London University.
*Professor T. Sinclair, C.B. (C.), Belfast (Queen's) University (unopposed).

* Denotes member of late Parliament.

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some diseases of the nervous system met with in general practice.

THE TREATMENT OF MENINGITIS*

BY

GEORGE RIDDOCH, M.D., F.R.C.P.

Certain general rules should be followed in the treatment of all forms of acute meningitis. The patient should preferably be nursed in a quiet, darkened room. Nurses, who ought to wear slippers with soft soles, must move about quietly, avoiding noise, and in tending the patient must do so gently. Visitors should be prohibited. Diet should be fluid but nourishing, and vitamin preparations may with benefit be added. If the patient is unable to swallow, nasal feeding will be necessary. For the relief of headache, ice-packs and analgesic drugs such as aspirin (10 grains), pyramidon (10 grains), or veganin (one or two tablets) are useful and supplementary to lumbar puncture. For restlessness and sleeplessness tepid sponging is soothing if there is much fever, and simple sedatives, such as potassium bromide 12 grains, chloral hydrate 10 grains, two or three times a day, or twice that amount at night, should not be withheld. This is the adult dose, and should be correspondingly reduced for children. Morphine may be required, especially in the later stages in serious cases. Care should be taken that the bladder is periodically emptied.

Acute Pyogenic Meningitis

Apart from meningococcal infection, which will be considered by itself, the organisms which are the usual causes of this form of meningitis are streptococci, staphylococci, and pneumococci. It may follow septicaemia, from extracranial foci, such as pneumonia, empyema, or osteomyelitis, or be due to direct spread of infection from erysipelas of the scalp, penetrating wounds, or fractures of the skull with tearing of the meninges, or from bursting of an intracranial abscess. But the most common source of infection is inflammation of the ear, mastoid, or paranasal sinuses.

In such cases the first principle in treatment is, when possible, to deal with the primary focus of infection. Pneumococcal meningitis is usually fatal whatever is done and whether due to aural infection or pneumonia. But recovery from streptococcal and staphylococcal meningitis, secondary to sinusitis or mastoiditis, is always possible provided that adequate drainage is established and the bulk of the intracranial infection is not great, as shown by the absence or small number of organisms found in the cerebro-spinal fluid. Withdrawal of as much fluid as possible by lumbar puncture should be carried out at least once daily. Sera are of doubtful value and may even do harm, but hexamine, 15 grains in water four times a day by mouth, or 10 c.cm. of a 10 per cent. aqueous solution intravenously once daily, is worth trying for its antiseptic properties and its capacity for gaining entry into the subarachnoid space from the blood stream.

Meningococcal Meningitis

Cerebro-spinal fever appears in this country sporadically or in epidemics in the winter and spring. The disease, which is not highly contagious, is probably spread by droplets from the nasopharynx in coughing and speaking, and carriers may be immune. Children are particularly susceptible to the infection, and overcrowding predisposes to epidemics. Much, however, has yet to be learned of the factors that determine entry into the body, for in epidemics cases are scattered regionally.

In children and adults the symptoms and signs of meningitis are as a rule unmistakable, and the skin eruption, when present, indicates the meningococcal origin. The eruption may be a petechial rash like flea-bites, a blotchy purpuric rash when septicaemia is severe, or herpes on the face or other parts of the body, which Kennedy[1] insists always appears on the fourth day of the disease. It should, however, be kept in mind that infected infants not only may be free from rashes but may show none of the specific signs of meningitis such as cervical rigidity and Kernig's sign. They may merely be feverish, irritable, and fretful, although pus and organisms are present in the cerebro-spinal fluid.

Specific Therapy

Before the introduction by Flexner of specific serum therapy, the mortality rate was about 80 per cent., while now, although it varies in different epidemics, it has dropped to about 30 per cent. It is of the greatest importance to begin specific therapy as early as possible. Either serum or the new Ferry's antitoxin is employed. Gordon has identified four types of meningococcus, and a specific serum can be prepared for each. Whenever possible, the infection in each case should be typed, and for this purpose a sample of the cerebro-spinal fluid in a sterile test tube can be sent to the Ministry of Health. When the organism belongs to one type, the serum for that type, to give the best result, should be administered. For a mixed infection a polyvalent serum is employed. Ferry's antitoxin is polyvalent, and, experimentally, neutralizes the extracellular toxins of the meningococcus as well as acting on the organism itself. It has not as yet been tried extensively enough to decide whether in human infections it is more potent than serum; but Banks[5] concludes from a small series of twenty-five cases, with seven deaths, that in large doses it is particularly valuable in Group I infections. Theoretically, at least, it is the most potent remedy as yet available.

In every suspected case of cerebro-spinal fever lumbar puncture should at once be carried out. When meningitis is present the cerebro-spinal fluid, in the majority of cases, will be under pressure and turbid. In fulminating cases, however, with blotchy, purpuric eruptions and rapid development of stupor and coma, the pressure may be almost normal and the fluid clear. A sample of the fluid drawn off should be immediately sent to the laboratory, where it must be cultured as well as examined in films. When fresh serum or antitoxin is available, a dose should at once be injected intrathecally while the practitioner is waiting for the pathologist's report. It is important that the serum be fresh, for it soon deteriorates. If there is a skin eruption, or, in its absence, if the case is diagnosed in the first day of the illness, 200 c.cm. of the serum, or 20,000 to 30,000 units of the antitoxin, diluted with 120 to 200 c.cm. normal saline or with 10 per cent. glucose solution should also be given intravenously or intramuscularly. This should be repeated daily for two or three days or until blood cultures are negative. In regard to the intrathecal dose, as much cerebro-spinal fluid as possible should be withdrawn and about 5 c.cm. less of the specific remedy,

* Because of the available space only acute and subacute meningitis will be considered.

warmed to body temperature, slowly introduced by gravity through a sterile funnel, rubber tube, and metal connexion. If this is not at once available, the barrel of a 10 or 20 c.cm. syringe will do if the patient is turned a little over to one side. The open mouth of the syringe should be protected by a piece of sterile gauze. After the injection the skin puncture is sealed with gauze and collodion and the foot of the bed raised on blocks.

When it is desirable to inject serum intravenously and there is a history of horse serum having been used, for one reason or another, more than ten days before, the danger of anaphylaxis has to be considered. If the case is urgent, anaphylaxis can as a rule be prevented by giving a general anaesthetic, but if delay can be afforded the patient's sensitiveness to serum can be tested by an intradermal injection of 0.25 c.cm. Should he prove to be sensitive by the development of an urticarial wheal at the site of injection within half an hour, he can be desensitized by a preliminary subcutaneous injection of 1 c.cm. of serum.

Lumbar Puncture

When the pathologist's report confirms the diagnosis, lumbar puncture should be repeated in severe and moderately severe cases twice daily, and in slight cases once daily. As before, as much fluid as possible should be allowed to run out into a sterilized container and measured, and 5 c.cm. less of the serum or antitoxin run in. Each sample of cerebro-spinal fluid ought to be cultured and intrathecal injections continued until three consecutive samples of fluid have been reported sterile. This result may be achieved in a few days. After that, the cerebro-spinal fluid should be drained once daily until it is clear to the naked eye, but more serum should not be injected unless a relapse occurs. Serum itself is a meningeal irritant, and often increases the number of cells in the cerebro-spinal fluid, as well as spinal rigidity and irritability. This adverse reaction is, however, to be neglected provided that plenty of fluid is obtained, thus indicating free communication between the intracranial and spinal portions of the subarachnoid space, and that organisms are disappearing from the fluid.

The introduction of specific remedies into the subarachnoid space by lumbar puncture has been the orthodox method, and is probably all that is necessary in mild cases. But the simultaneous employment of lumbar puncture for drainage with ventricular or cisternal puncture for the injection of serum (or antitoxin) is gaining in popularity, and there is much to be said for it. The results of its advocates are encouraging, and it well may become the method of choice in the future. By its use not only may the mortality rate be diminished, but the number of cases of chronic hydrocephalus and post-basic meningitis be seriously reduced. At the same time, its superiority over the more orthodox methods of introduction of serum into the lumbar sac has not yet been proven, and it involves an additional burden on the patient. For the present, it might be said that indications for its employment are: (1) severe fulminating meningitis with rapid development of stupor; and (2) meningitis of moderate severity with persistent positive cultures from the cerebro-spinal fluid after adequate treatment by lumbar puncture has been carried out for about a week, and especially if head retraction is increasing and the amount of fluid obtained is diminishing.

Ventricular Puncture

The scalp is shaved and cleansed with iodine or spirit. The needle must be sharp and of medium diameter. In infants the needle is easily passed into the distended lateral ventricle through the lateral part of the anterior fontanelle. As much fluid as possible is then withdrawn very slowly by a syringe, and about 5 c.cm. less of serum or antitoxin are introduced by gravity.

In children or adults an opening in the skull has to be made in a situation in which perforation of the brain would cause least damage. The situation usually chosen for ventriculography is suitable, for, in addition, it allows of drainage of cerebro-spinal fluid by tilting of the head. The "landmarks" are three-quarters of an inch above the superior curved line of the occipital bone and one inch from the middle line. The skin is incised and an opening in the skull is made by a small drill such as that devised by Purves-Stewart.[2] The needle is then slowly pushed forwards horizontally and slightly outwards so as to enter either the posterior horn or the vestibule of the lateral ventricle. The head should then be tilted backwards to drain off all the cerebro-spinal fluid that will flow. Again about 5 c.cm. less of serum or antitoxin are run in by gravity.

Cisternal Puncture

The cisterna magna lies between the cerebellum above, the medulla below, and the occipito-atlantoid ligament behind. In shape it is roughly triangular, and in the adult, unless the intracranial structures are distorted, there is from 2 to 3 cm. between the medulla and the occipito-atlantoid ligament. With reasonable care the operation of cisternal puncture in children or adults can with safety be carried out, unless hydrocephalus is severe. After the skin has been shaved and an antiseptic has been applied, the operation is performed as follows.

The patient is lying on his side. An assistant keeps the head steady, moderately flexed, and in the middle line. The tip of the operator's left index finger is placed on the spinous process of the axis and the needle is inserted just above this landmark. The freshly sharpened needle is then gently pushed forwards and slightly upwards in a line a little above the plane, which passes through the external auditory meatus and the nasion, in order to reach the occipital bone immediately behind the foramen magnum. When the bone is reached the needle is slightly withdrawn and reinserted at a lower level. The resistance of the occipito-atlantoid ligament is easily recognized if the operation is slowly performed, and it is then that especial care should be taken. When pushing the needle through the ligament the operator should splay his fingers over the back of the patient's skull so as to have full control of his intrument. At the same time his assistant must keep the patient's head steady. As soon as the point of the needle is felt to pierce the tough ligament the stylet should be withdrawn. Unless there is a block in the cerebro-spinal fluid circulation from obstruction in either the roof of the fourth ventricle or the cisterna magna from arachnoiditis, fluid should come. If little fluid is obtained the operation should not be repeated. But if fluid flows it should be allowed to discharge freely. Again the amount should be measured and about 5 c.cm. less of serum or antitoxin be injected by gravity.

Whether ventricular or cisternal puncture be employed, lumbar puncture should be performed either immediately before or after in order to ensure as efficient drainage as possible. The frequency with which ventricular or cisternal puncture should be carried out is unsettled, but it is suggested that it should be done not more often than once a day, and that, if drainage and the injection of the specific remedy should appear to be necessary more frequently, it should be by lumbar puncture alone.

For these repeated operations an anaesthetic will in general be necessary. Those experienced in the treatment of cerebro-spinal meningitis are usually opposed to general anaesthesia, and probably they are right. A local anaesthetic such as 1 per cent. novocain or ethyl chloride spray

is all that is necessary, unless the patient is restless, and then for ventricular or cisternal puncture gas and oxygen can be used.

If adequate treatment cannot be carried out in the patient's home or in a nursing home, he should be transferred to a suitable fever hospital. Experience and technical skill are required in order to give the best results.

Prophylaxis

During an epidemic the nasopharyngeal secretion of contacts should be examined and carriers isolated. A disinfectant such as 1 per cent. chloramine-T should be used as a throat spray twice daily until swabs are negative. As a rule the throat infection will disappear in two or three weeks.[3]

Acute Aseptic Meningitis

The somewhat rare and benign variety known as acute aseptic meningitis is of unknown origin, and occurs sporadically or in small epidemics, chiefly in children. The onset is acute, without prodromal symptoms or any indication of local or general infection. The cerebro-spinal fluid pressure is raised and the fluid may be clear, cloudy, or, very occasionally, purulent. It contains an excess of cells, and at first polymorphonuclears may be in excess, but soon they are replaced by lymphocytes.[4] Albumin and globulin are increased, but as a rule sugar and chlorides are little affected. The acute onset, the almost normal chloride content of the spinal fluid, and the usual complete recovery in about two or three weeks differentiate the disease from tuberculous meningitis. Treatment is on general lines along with cerebro-spinal fluid drainage by lumbar puncture carried out daily or every second day.

Tuberculous Meningitis

There are a few recorded cases of recovery with tubercle bacilli in the cerebro-spinal fluid,[6] but they are very exceptional. Death, as a rule, occurs in about three weeks from the time of appearance of meningeal signs. In the spinal fluid the most important diagnostic indication, apart from the finding of tubercle bacilli, is the marked reduction in chlorides. It is claimed that bacilli will be found in a large proportion of cases if the fluid is centrifuged at higher velocity and for a longer time than is usual. Treatment is symptomatic, which includes lumbar puncture for the relief of headache and the use of sedatives for restlessness.

REFERENCES

[1] Kennedy, J. M.: *British Medical Journal*, 1935, i, 756.
[2] Purves-Stewart, Sir James: *Lancet*, 1925, ii, 1159.
[3] Brain, W. Russell, and Strauss, E. B.: *Recent Advances in Neurology*, J. and A. Churchill Ltd., London, 1934, p. 48.
[4] Gibbens, J.: *Lancet*, 1931, ii, 12.
[5] Banks, H. S.: Ibid., 1935, i, 856.
[6] Hobson, F. G.: Ibid., 1935, i, 938.

According to M. Lydaki (*Thèse de Paris*, 1935, No. 720) the first description of bou'onneuse fever in Greece was published in October, 1930, but there is reason to suppose that it had previously been mistaken for Brill's disease, which Lorando had regarded as occurring at Athens in that year. It is most prevalent in the hot months of the year (July, August, and September), but it is also fairly often seen in winter owing to the favourable temperature for the ticks during this season. Its unequal distribution in the various parts of Greece is due partly to the existence in certain districts of numerous dogs, which are tick carriers, and partly to the presence of virulent ticks in some regions and of non-virulent in others.

103rd ANNUAL MEETING
of the
British Medical Association
MELBOURNE, SEPTEMBER, 1935

THE SECTIONS

SUMMARY OF PROCEEDINGS

Publication of the opening papers in the Scientific Sections at Melbourne began in the JOURNAL *of September 14th, and will be continued during the next few months. The reports of discussions in this and the last three issues are intended to give members a general idea of the proceedings.*

SECTION OF OBSTETRICS AND GYNAECOLOGY

Friday, September 13th

The Ovarian Cycle and Endocrinology

With Professor MARSHALL ALLEN in the chair, Dr. NINIAN McI. FALKINER opened a discussion on the ovarian cycle and its relationship to endocrinology.

Dr. Falkiner referred to a previous communication in which he made an effort to elucidate the significance of haemorrhage in the human corpus luteum. At the meeting of the British Medical Association in Dublin in 1933 Professor NOVAK had stated that Hartman's views with regard to an active substance derived from the anterior pituitary gland as a cause of the onset of menstrual bleeding had been abandoned. He (Dr. Falkiner) had endeavoured to show that in the human corpus luteum the onset of haemorrhage in the uterine mucosa was accompanied by a synchronous haemorrhage in the corpus luteum. That, to his mind, explained the very rapid degeneration of the corpus luteum of menstruation. On the other hand, in the corpora lutea of pregnancy that he had had the opportunity of examining he had never been able to demonstrate gross bleeding. Novak had not agreed with his interpretation of the series that he had collected. There was no doubt that haemorrhage occurred in the corpus luteum at various stages of its history, and this made it very difficult to come to the conclusion that a haemorrhage seen at the time of the onset of menstruation could be attributed to any specific cause. The one thing that had emerged from his study of the past two years was that no corpus luteum from pregnancy had shown the presence of bleeding. The corpus luteum had been recognized as having an influence on the mucous membranes of the uterus, and they know that this was due to its internal secretion, which had been named progestin. The physiological effects of progestin were to stimulate the mucous membranes of the uterus to undergo secretory changes. In mammals such as the ungulates the secretory activity of the uterine gland was essential to nourish the ovary, for in the ungulates the placenta was a placenta epithelio-chorionalis when the chorion did not invade the maternal blood vessel in forming the placenta. In the human female the chorion formed a very intimate attachment to the uterine mucosa, allowing the maternal blood stream to bathe chorionic villi, and thus the necessity for secretory activity in the uterine mucosa was obviated. It would therefore appear that only in the early weeks of pregnancy was the corpus luteum essential for the continuation of gestation. Administration of corpus luteum extracts in cases of repeated abortion might be justified on the grounds that the corpus luteum affected the contractility of the uterus, rendering it less likely to expel the products of conception.

Dr. BRUCE MAYES (Brisbane) said that endocrinology had advanced rapidly in the laboratory and slowly in practice. It was essential to make a correct diagnosis

as to which gland was at fault. Amenorrhoea in the young girl was generally caused by anterior pituitary upset, whereas in the premature menopause it was ovarian in origin. Menorrhagia was a disorder due often to corpus luteum deficiency, and treatment in these cases was promising with the hormone itself, given by injection but not by mouth. The relation of the endocrines to emotions and instincts seemed to be proved by certain observers. Dr. F. A. MAGUIRE (Sydney) found that amenorrhoea due to pituitary disturbance gave no result with treatment. The subthyroid type, whether characterized by amenorrhagia or menorrhagia, responded to the administration of thyroid. The over-action of the endocrines seemed to produce menorrhagia, whereas the under-action produced amenorrhoea. It was his experience that absence of menstruation clinically made little difference to the health of the patient.

Dr. R. F. MATHERS (Adelaide) said that follicular rupture occurred fourteen to sixteen days prior to menstruation. The basal metabolic rate was increased by pregnancy. In investigating the parathyroid activity in relation to the menstrual cycle he found there was no alteration in the blood calcium during this period, but that there was a rise in the later months of pregnancy. Experiments on rats proved a definite interrelation between adrenal and ovarian hormonic activity. In treatment, if prolan was being used it should be standardized regularly as it became inert comparatively quickly. Professor J. B. DAWSON (Dunedin, N.Z.) said that gynaecology and obstetrics should be practised together, and in interpreting the term gynaecology he preferred "lore of women" to "diseases of women," thus divorcing its practice from that of general surgery.

The President (Dr. J. S. FAIRBAIRN) asked Dr. Maguire to amplify his remarks that thyroid deficiency gave both amenorrhoea and menorrhagia, as it was his experience that in these cases menorrhagia occurred first, and later amenorrhoea. Dr. EDWARD WHITE (Melbourne) stated that the one-child mother was often of the subthyroid type, and if treated as such often produced other children. In the case of women in the middle thirties suffering with menorrhagia he preferred to treat them on general medical lines, aiming to improve their general bodily physical and mental tone. The CHAIRMAN, before calling on Dr. Falkiner to reply, stressed the necessity for keeping gynaecology a pure science to be practised by gynaecologists only.

Dr. FALKINER, in reply, stated that the Aschheim-Zondek test was the reward of endocrinological investigation, but the results of glandular therapy were a disappointment. Dr. MAGUIRE, in reply to the President, said that he always taught that menstrual function varied in inverse ratio with thyroid activity, but investigation of his case records showed that he did not always observe this.

SECTION OF MEDICINE

Friday, September 13th

Haemolytic Jaundice

Dr. S. O. COWEN (Melbourne), opening a discussion on the pathogenesis and treatment of haemolytic jaundice, said that familial acholuric jaundice, first described by Minkowski in 1900, was now recognized to be of widespread though not of common occurrence. Its peculiar characteristics had attracted an amount of attention in medical literature which the relative infrequency of its incidence scarcely justified. Comprehensive reviews by Tileston, Dawson, and Cheney and Cheney, among others, have made the general features of the disease well known. The pathogenesis, however, remains obscure in spite of Haden's illuminating work on the fundamental abnormality of the erythrocyte. Putting aside these aspects of the subject Dr. Cowen confined himself to a brief review of the results of splenectomy and a discussion of some problems of treatment about which general agreement had not been reached. The results of splenectomy in twenty patients bore out the generally accepted view that the operation brought about complete and lasting freedom from symptoms. One point not sufficiently emphasized in the literature was the rapidity with which the more seriously affected patients improved after the operation. The jaundice disappeared almost immediately and the anaemia improved so rapidly that within six weeks a bedridden child might be well enough to return to school. The operative mortality was very small. In this series no deaths occurred from causes in any way related to the operation. Operative morbidity also had in this series been negligible. The remote results of splenectomy had been equally satisfactory, confirming the general statement that the relief it afforded was permanent. Variations in the severity of the disease were familial rather than individual. The family history as well as the clinical findings in the individual patient should be considered in determining the advisability of splenectomy. When biliary pigment stones were present the gall-bladder should be emptied by crushing the stones digitally or by cholecystotomy. Cholecystectomy should be performed only when evidence of cholecystitis was present.

Dr. C. T. C. DE CRESPIGNY (Adelaide), who had known some of the early patients included in the family tree described by Dr. Cowen, asked whether splenectomy cured the tendency to ulceration of the legs to which some of these patients were liable. He also referred to the blood crises which formed a part of the disease, and asked whether any of these had been observed following the operation. Dr. COOKE (Ceylon) stated that in Ceylon the question of splenectomy was complicated by the frequent coincidence of malaria, and that following splenectomy left-sided pneumonia, which was frequently fatal, or pleural effusion was a common occurrence.

In reply, Dr. COWEN said that ulceration of the leg had occurred in two of his series and had disappeared after splenectomy. He was satisfied that the pulmonary complications, since they always occurred on the left side, were the result of local operative injury.

SECTION OF ORTHOPAEDICS

Thursday, September 12th

Osteo-arthritis of Knee and Hip

With Professor HEY GROVES, the President, in the chair, a discussion was opened by Mr. J. FORBES MACKENZIE (Melbourne) and Mr. S. A. S. MALKIN (Nottingham) on osteo-arthritis of the knee and hip.

Mr. FORBES MACKENZIE largely confined himself to the description of a certain line of treatment which he adopted in these cases; and in matters of classification he took as his main guide the sane and admirable classifications drawn up by the British Medical Association Committee on Arthritis. His general conclusions were: (*a*) All cases of osteo-arthritis and so-called rheumatoid arthritis belong to the same type of disease, and should be classed as such. (*b*) The condition in these cases is one of primary osteitis, with secondary arthritis. There is every reason to think that the bone marrow has undergone some disease change. (*c*) Many cases are improved by the simple procedure of opening the bone in the neighbourhood of the joint affected. (*d*) Improvement is manifested by relief of pain, improved health and outlook on life, with an improved blood state. Restoration of function, while slower, does occur. (*e*) There is reason to think that articular cartilage, unless hopelessly damaged, will recover as a result of the procedure. (*f*) The progress of the disease is stayed, and recurrence is exceptional and then only in the nature of a slight flare-up, which can be dealt with by local opening of the bone. (*g*) The procedure is simple, unaccompanied by shock or unfavourable sequelae, and does not call for a long stay in hospital nor for expensive after-treatment.

Mr. MALKIN directed his remarks to the use of femoral osteotomy in the treatment of osteo-arthritis of the hip. He reported a short series of advanced cases in which a simple femoral osteotomy had been performed and proved effective. The problem of the single arthritic hip was primarily one of pain. Patients came for advice usually not because of deformity but because of pain, and it was

therefore of the first importance in treating the condition to know as far as possible exactly how and why the pain occurred. Whatever the cause of the condition in the first instance—and in most cases there was either a traumatic basis or traumata were superadded—the final result was a disparity between the two bony components of the joint. As a consequence faulty mechanics induced a strain mostly taken by the inelastic fibrous structures surrounding the joint, and resulted in muscular spasm which increased and maintained the deformed position. With patients who sought advice on account of pain, deformity of the affected hip was present in almost all advanced cases, the three most marked deformities being adduction, external rotation, and flexion.

In advanced cases of monarticular osteo-arthritis of certain types, pain was largely a matter of faulty mechanics. By correcting the deformity and realigning the femur, the mechanical strain on the joint and pain might be eliminated. The simplest method of achieving this and the method with least operative risk was the femoral osteotomy. This would preserve any useful movement which was present in the joint. Mr. Malkin felt that the operation he described, though not new, had rather been neglected in the past.

Mr. G. D. KERSLEY (Bath) was much impressed by Mr. Forbes Mackenzie's paper and results, but he could not agree with the sweeping negative that every other method of treatment was ineffective, nor that all types of arthritis were the same. As regards osteo-arthritis sepsis was not the main aetiological factor, but trauma and nutrition played a large part. By trauma he meant not gross injury but repeated small injuries, caused, for instance, by faulty weight-bearing. Osteo-arthritis of the knee might be the result of flat-foot. His treatment was directed against these two causal factors. Rest, reduction of weight, and splinting relieved the traumatic factor, and local heat by baths, mud packs, and diathermy, counter-irritants, and endocrine therapy were practised to improve the nutritional state. The most important thing was to study the case from every aspect.

Dr. S. H. SCOUGALL described the work in the arthritis clinic at the Royal North Shore Hospital of Sydney. His views were the result of the joint study of Dr. Hamilton and Dr. Ducker and himself. The methods of treatment at this clinic included all the usual methods outlined by Dr. Kersley, and, in addition, dietetic measures and treatment by manipulation. They used a modified diet, after Pemberton, with a low caloric value with special limitation of carbohydrates. Occasionally this gave complete symptomatic relief. Manipulation in quiescent cases gave much temporary and sometimes permanent relief. In his view the relief from symptoms was at least partly due to improvement in the patient's posture. He had also noticed that in cases of rheumatoid arthritis complete relief sometimes followed any operation, for six or eight weeks, a fact which was as difficult to explain as the gratifying results which Mr. Forbes Mackenzie had described. Only five patients had been treated by Mr. Mackenzie's methods in this clinic, and they were patients who had not responded to the usual routine methods. Dr. Scougall had to confess that he was disappointed with the results, and one patient in particular had become much worse.

Mr. J. B. COLQUHOUN (Melbourne) wished to vouch for Mr. Forbes Mackenzie's satisfactory results, which he had duplicated in his own practice. At first he was very sceptical, but was now completely convinced. He believed that it was not necessary to bore such large holes as Mr. Mackenzie did, and thought that multiple small drill-holes gave equally good results. Dr. MARIAN TAYLOR (Perth) said that she had practised Mr. Mackenzie's methods in about one hundred cases with only two failures, and was very enthusiastic. She described in detail the histories of several patients who made immediate and rapid improvement after she had bored the lower end of the femur and the upper end of the tibia. The improvement was just as striking in joints such as the ankles and fingers remote from the site of operation as in the knee-joint.

Nova et Vetera

THE LAMBETH DEGREES

BY

CECIL WALL, D.M., F.R.C.P.

In the early part of the ninth century Charlemagne's concessions to Leo III enabled the Papacy to establish a monopoly in teaching in all the countries brought under its influence. Universities and colleges were under Papal control until the Reformation, and degrees were granted by the Pope's delegates. In England in 1351 was passed the Statute of Provisors, which denied the Papal claim to dispose benefices. This statute forbade anyone to receive or execute any letters of provisions for preferment, but the law as it stood carried all dependent questions to the courts at Rome. Consequently in 1353 the Statute of Praemunire was enacted prohibiting the questioning of any judgement of the King's courts by any foreign court.

According to William Stubbs (*Gentleman's Magazine*, 1864, i, 633):

"During the fifteenth century attempts were made to restrict the exercise of the Papal power in opposition to the Statute of Provisors by securing promotion to the graduates of the English universities and to advance and strengthen the universities by providing competently for their graduates. To evade the disabilities imposed thus on non-graduates and to secure for themselves the privileges of graduates it became usual towards the end of the century for clerks who had not been educated at the English universities to obtain dispensations from Rome enabling them to hold pluralities, etc., and in some few recorded cases to obtain degrees from the Pope, on the strength of which they were incorporated in the English universities with the same rights as the original graduates. It seems probable that these degrees were granted by the Pope as a part of his ordinary power and not in any connexion with a university. It was not necessary to go to Rome for these degrees: the legates could confer them. For instance Cardinal Wolsey's Bull of Legation in 1529 gave him the power to admit suitable persons to be doctors, licentiates, bachelors, masters, etc., in Law, Theology, Arts, and Medicine."

In 1534 an Act was passed "concerning the exoneration of the King's subjects from exactions and impositions heretofore paid to the see of Rome and for having Licences and Dispensations within this realm without suing further for the same." This Act provided that the Archbishop of Canterbury should have power to grant "all manner of such licences, dispensations, compositions, faculties, grants, receipts, delegacies, instruments, and all other writings for causes not being contrary or repugnant to the Holy Scriptures and laws of God as heretofore hath been used and accustomed to be had and obtained by your Highness or any of your noble progenitors or any of your or their subjects at the see of Rome." It enacted, further, that where the dispensations, etc., should be "of such importance that the tax for the expedition thereof at Rome extended to the sum of £4 or above," they must be confirmed by letters patent under the great seal to be enrolled in chancery." Both these clauses apply to degrees in divinity, law, and medicine granted by the Archbishop of Canterbury, it being assumed that degrees were included in the term "faculties" of the Act. In the book of Taxation, Section XI, the fee for the creation of a doctor in any faculty was £4. Bishop Gibson stated that the Archbishops had claimed and exercised the right to confer degrees under this Act, and their right was not challenged until the reign of George I, when Gastrell, Bishop of Chester, refused to admit Samuel Peploe, B.D.Lambeth, to the wardenship of Manchester College. The decision was given in the Archbishops' favour in the King's Bench in 1725.

The right of the Archbishop of Canterbury to grant the doctorate in any faculty, established in 1534 by the Act of Supremacy and Succession, persists and is not infrequently exercised in faculties other than that of medicine, and it is customary for the doctor thus created to wear the hood and robes of the university to which the Arch-

bishop belongs. The doctorate, however, is an academic distinction, and in the faculty of medicine did not directly confer the right to practise. In Oxford and Cambridge it was customary for the regius professor of medicine to grant to bachelors of the faculty a licence to practise after they had conducted a certain number of cures. This licence was operative in the university towns and presumably throughout England, except in London, where the College of Physicians, under its charter confirmed by statute, claimed an exclusive right to permit practice. In 1606 Thomas Bonham, who had proceeded M.D. at Cambridge in 1595 without any grace, when summoned by the College replied that he had practised and would practise physic in London without their leave. He was fined £10 and committed to prison pending payment. He brought an action against the President and Censors for illegal imprisonment and won the case; Coke, Warburton, and Daniel, the judges in the Court of Common Pleas, ruling that the College had not the power to commit Bonham to prison for any of the causes mentioned.

It was left undecided whether Oxford and Cambridge graduates could practise in London without the leave of the College. Instead of instituting another test case the College agreed with the universities in 1675[1] to restrict their licence to English graduates in medicine, and the universities seem to have agreed not to grant their licence except with the approval of the College. The College was chiefly perturbed by the practising apothecaries. In 1633 John Buggs was summoned to the Censor's Board and fined. He promptly went to Leyden, and after a sojourn of two months returned with an M.D. degree: on the strength of this he received from Cambridge in 1634 a licence to practise physic, and in 1635 he was incorporated M.D. at Oxford. The College did not take any further proceedings against him, but as he died in 1640 he did not live long to enjoy his victory.

The ease with which Continental degrees could be obtained, and the custom of the universities to incorporate such doctors *ad eundem* and thus render their holders eligible for the College licence, opened an opportunity for the Lambeth graduates. The records of the degrees granted by the Archbishops are preserved in the library at Lambeth Palace and deserve full investigation. Stubbs gives a list of those conferred since 1660. In some cases the M.D. degree was conferred on one who was already a graduate in arts. Thus William Fyffe, M.A. of Trinity College, Oxford, was granted the M.D.Lambeth in 1663, and in the same year Archbishop Sheldon conferred the degree on Robert Thoroton, the historian of Nottinghamshire, who was an M.A. of Cambridge and had received the university licence to practise medicine. The Archbishop, however, did not always require that those he honoured should have had a university education. Edmund Freeman, or King, became M.D.Lambeth in 1663, and was incorporated *ad eundem* at Cambridge in 1671. Francis Bernard, the apothecary to St. Bartholomew's, who did such good work during the plague, was granted the M.D.Lambeth by Sancroft in 1678: after incorporation at Cambridge he became a Fellow of the College of Physicians.

The list of the Lambeth doctors seems to show that the degree was usually granted as a reward for eminent service to those who had not been able to conform with the university regulations for internal degrees. Robert Hooke, the secretary of the Royal Society, received it at the hands of Tillotson in 1691. John Woodward, the geologist and Gresham Professor of Physic, was honoured by Tenison in 1695 and Sir Charles Mansfield Clarke by Manners-Sutton in 1827; but it is not always easy to recognize the claim to the distinction. Edward Cronin, a well-known homoeopath, received the degree in 1858 just before the Medical Act came into force, and thus secured admission to the *Register*. Since 1858 the degree has been granted occasionally, but merely as a decoration. In 1880 it was conferred on Mr. James Rogers, a medical practitioner of Swansea, who was Mayor at the time of the Church Congress. The expense was said to have been about eighty guineas, and was defrayed by public subscription.

[1] Mason Good gives the date as 1637, but I cannot confirm this.

LAMBETH DEGREES CONFERRED SINCE 1660. (*Compiled from Stubbs's List and other Sources*)

Juxon, Archbishop:
1663, May 11th: William Fyffe, M.A., Trin. Coll., Oxford.
1663, May 12th: Edmund Freeman, alias King, incorporated at Cambridge October 3rd, 1671. (Sir Edmund King.)

Sheldon, Archbishop:
1663, September 9th: Policarp Dakyn, M.B., of Derby.
1663, October 31st: Robert Thoroton, Christ's Coll., Camb., B.A. 1642, M.A. 1646, L.M. 1646, Historian of Nottinghamshire.
1675, April 9th: William Rosewell, M.A.

Sancroft, Archbishop:
1678, February 6th: Francis Bernard, incorporated at Cambridge, Charter Fellow of the College of Physicians, 1687.
1678, March 9th: Peter Dent, an apothecary and botanist of Cambridge. Incorporated at Cambridge March 18th, 1681.

Tillotson, Archbishop:
1691, July 2nd: Thomas Hobbs.
1691, December 7th: Robert Hooke, Secretary, Royal Society.
1692, March 3rd: Caleb Coatsworth, F.R.S., formerly a surgeon, Physician to St. Thomas's Hospital.

Tenison, Archbishop:
1695, February 4th: John Woodward, Gresham Professor of Physic. Incorporated at Cambridge 1695.
1701, November 26th: John Crompton.
1707, February 18th: John Benbrigg.

Wake, Archbishop:
1716, July 3rd: Thomas Cranmer of Mitcham.
1731, September 9th: John Howell of Isleworth.

Hutton, Archbishop:
1764, September 18th: James Ford.

Cornwallis, Archbishop:
1782, June 8th: David Bayford of Lewes.
1783, January 24th: Robert Hallifax.

Moore, Archbishop:
1787, July 13th: Richard Browne Cheston, Surgeon, Gloucester Infirmary.
1788, March 8th: John Ford.
1803, March 4th: Robert Pope of Staines.

Manners-Sutton, Archbishop:
1806, August 25th: Thomas Day of Maidstone.
1818, February 7th: John Day.
1819, March 11th: Carr Ellison Lucas.
1822, November 7th: William Oliver Locke.
1824, July 21st: James Rumsey of Amersham.
1825, August 31st: Daniel Jarvis.
1826, May 29th: Edward Grimstone.
1827, October 3rd: William Chandler.
1827, December 21st: Charles Mansfield Clarke ("The Divine Doctor" of Wakley in the *Lancet*).
1828, May 28th: William Samways Oke of Southampton.
(N.B.—In the *Lancet* (1864, ii, 229) it is stated that when Manners-Sutton, the Speaker, was M.P. for Scarborough Mr. Dunn, a surgeon, did him some acts of political kindness. Manners-Sutton asked his father, the Primate, to reward Mr. Dunn by granting an M.D. degree. Another letter, on page 257, states that the degree was given, not to Mr. Dunn, but to his partner Travis. Neither name appears in the list of graduates.)

Howley, Archbishop:
1836, October 12th: David Davies.
1840, October 10th: Robert Hull.
1841, June 22nd: Sir William Hyde Pearson.

The following have had degrees conferred upon them since the death of Archbishop Howley:

Joseph Laurie (1849); William Bayes of Cambridge (1850); Edmund Charles Johnson (1851); Frederick Gilder Julius of Richmond, Surrey (1851); John Green Bishop (1851); George Canney (1854); John Hodgson Ramsbotham of Leeds (1855); Ralph Barnes Grindrod of Great Malvern (1855); Edward Cronin (1858); William Baker (1858); Edward Westall (1861); John Rayner (1861); William Sherwin (1862); James Rogers of Swansea (1880).

In the seventeenth century there was considerable confusion between the bishops' licences to practise medicine or surgery and the Lambeth doctorate. The licences could be bought for a small sum at the vicar-general's office. (Hodge's *Vindiciae Medicinae*, 1666, p. 80.)

> "His money's current and will pass,
> Though he who's licens'd is an ass."

These licentiates began to style themselves M.D., and some, like William Salmon, when asked to explain, interpreted the letters as indicating "Medicinae Donator."

VOLUNTARY EUTHANASIA

PROPAGANDA FOR LEGALIZATION

Attention is now being drawn once again to the question of the legalization of voluntary euthanasia—that is, painless death for persons desiring it who are suffering from an incurable, fatal, and painful disease. An increasing number of people in this country believe that it ought to be possible for persons so suffering, if they so desire, to anticipate death by painless means without having to set the law at defiance. Some of these sufferers do end their lives, but, as the law stands, they are guilty of suicide (a felony), while anyone—doctor, nurse, or friend—who aids and abets them is liable to a charge of manslaughter, if not of murder. The verdict of "Suicide while of unsound mind," usually brought in by coroners' courts in these cases, carries with it a stigma.

In order to promote the legalization of painless death for incurables, and to educate public opinion concerning it, a society has now been formed—the Voluntary Euthanasia Legalization Society—and is receiving support from many quarters. Lord Moynihan has accepted the office of president, a number of distinguished men and women have consented to be vice-presidents, and a strong Consultative Medical Council, whose names appear below, has been constituted. With their assistance and under expert legal advice, a Parliamentary Bill has been drafted which sets out in detail the proposed procedure. (Copies of the Bill can be obtained from the honorary secretary, price sixpence.)

To meet objections on religious grounds a statement has been drawn up to the effect that what is proposed is not contrary to Christian principles. This statement has been signed by a number of men prominent in the religious world, including Dr. R. W. Inge, Dr. R. W. Matthews (Dean of St. Paul's), Canon Peter Green, and Canon H. R. L. Sheppard. An Executive Committee has been formed under the chairmanship of Mr. C. J. Bond, F.R.C.S., consulting surgeon to the Leicester Royal Infirmary, and the honorary secretary is Dr. C. Killick Millard, late M.O.H. for Leicester. It will be one of the principal functions of the society to disseminate information and to provide speakers. A fund is being raised to meet necessary expenses and to carry on propaganda. Anyone who is in sympathy with the objects of the society may become a member on a single minimum payment of five shillings, but it is hoped that those who can will contribute a larger amount. Subscriptions should be sent to the honorary treasurer, the Rev. A. S. Hurn, D.Litt., 16, Stanley Road, Leicester, or to Dr. Killick Millard, The Gilroes, Leicester.

Summary of Procedure

The procedure laid down in the Bill to be promoted by the society in order to enable a sufferer to anticipate death is briefly as follows:

1. The person desiring to receive euthanasia (that is, the patient) must be not less than 21 years of age and must be suffering from a disease involving severe pain and of an incurable and fatal character.

2. The patient must make an application in writing (on a special form) and must sign the application in the presence of two witnesses, one of whom must be an official witness—that is, a justice of the peace, barrister, solicitor, medical practitioner, or minister of religion.

3. Before making the application the patient must have consulted his nearest relative, and, to the best of his ability, set his affairs in order. "Nearest relative" is defined as "the husband or wife if living with the patient, or, if there is no husband or wife so living, such other relative, if any, as is living with and has the actual charge of the patient."

4. The application must be sent to a euthanasia referee (to be appointed by the Minister of Health under the Act) accompanied by medical certificates (on special forms). One of these certificates must be signed by the medical practitioner in attendance on the patient, and the other by a medical practitioner having certain qualifications or status to be prescribed by the Minister of Health.

5. The euthanasia referee, on receiving the application and before granting permission for euthanasia, must satisfy himself by a personal interview with the patient and otherwise that the requisite conditions have been fulfilled and that the patient fully understands the nature and purpose of the application.

6. Permission to receive euthanasia shall not operate until the expiration of seven days from the date on which the euthanasia referee sends the permit to the patient, and the referee shall, on sending the permit, notify the nearest relative, if any, that permission has been granted.

7. Within three days after receipt of such notice the nearest relative may appeal to a court of summary jurisdiction on the grounds that one or more of the requisite conditions have not been fulfilled, and the court, if satisfied that the allegations are well founded, may cancel the permit.

8. After receiving notice of the appeal the clerk of the court shall forthwith give notice thereof to the patient and to the practitioner by whom euthanasia is to be administered, and the operation of the permit shall then be suspended pending the decision of the court. Appeals are to be heard *in camera*.

9. Euthanasia shall not be administered by any person other than the medical practitioner named in the permit, and shall be administered in the presence of an official witness (of the status mentioned in para. 2 above).

10. For the purpose of the Coroners Act, 1889, a person receiving euthanasia, as provided for above, shall not be deemed to have died a violent or unnatural death; hence, no inquest will be necessary.

11. The Bill provides that the administration of the Act shall be in the hands of the Minister of Health, who is to have power to make regulations: (*a*) for the issue to medical practitioners of licences to administer euthanasia; (*b*) prescribing the duties of euthanasia referees and the fees payable to them; (*c*) prescribing the procedure to be followed in administering euthanasia; (*d*) prescribing the various forms to be used.

12. A special form of certificate of cause of death will be required for the purpose of the Births and Deaths Registration Act, 1894, and this is left to be drawn up by the Registrar-General with the concurrence of the Minister of Health. This certificate is to be signed both by the medical practitioner administering euthanasia and by the official witness.

Constitution of the Society

The president of the Voluntary Euthanasia Legalization Society, as stated above, is Lord Moynihan of Leeds, Past-President of the Royal College of Surgeons of England, and the medical vice-presidents are Sir Humphry Rolleston, Past-President of the Royal College of Physicians of London, and Sir W. Arbuthnot Lane.

The Consultative Medical Council is constituted as follows:

Sir George Buchanan, M.D., F.R.C.P.; Sir Leonard Hill, M.B., F.R.S.; Sir Walter Langdon-Brown, M.D., F.R.C.P.; Sir Frederick Menzies, M.D., F.R.C.P.; Sir James Purves-Stewart, M.D., F.R.C.P.; Sir John Robertson, LL.D., M.D.; Sir Pendrill Varrier-Jones, M.R.C.P.; E. D. Adrian, M.D., F.R.C.P., F.R.S.; T. W. Naylor Barlow, M.R.C.S.; Harold Chapple, F.R.C.S.; R. Veitch Clark, M.B.; W. McAdam Eccles, M.S., F.R.C.S.; James Fenton, M.D.; C. E. Goddard, M.D.; Professor Major Greenwood, D.Sc., F.R.C.P., F.R.S.; H. H. Greenwood, F.R.C.S.; N. Bishop Harman, LL.D., F.R.C.S.; T. N. Kelynack, M.D., M.R.C.P.; J. M. Mackintosh, M.D.; Professor R. M. F. Picken, M.B.; Francis Talbot, M.R.C.S., L.D.S.; Professor W. H. Maxwell Telling, M.D., F.R.C.P.; Professor H. Beckwith Whitehouse, M.S., F.R.C.S.

Dr. Killick Millard, who is the active spirit behind this movement, published in November, 1931, in *Public Health* an article "Euthanasia—a Plea for the Legalization of Voluntary Euthanasia under Certain Conditions," being his presidential address to the Society of Medical Officers of Health. This has been reprinted in pamphlet form by the C. W. Daniel Co., 46, Bernard Street, W.C.1 (2s.).

With the title of the Office du Cinema Médical, a new concern has lately been organized in Paris (13, Rue du Conservatoire), with the object of placing at the disposal of medical and pharmaceutical associations for demonstration purposes silent or talking films of French and foreign medical studies and operations. The films supplied are of the international standard, 35 mm. size, and are being prepared under the supervision of Dr. Maurice Fabre.

FIG. 1.—Case 2. Lesion of neck. Before treatment.

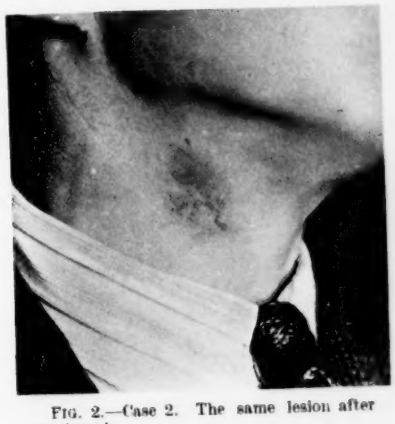


FIG. 2.—Case 2. The same lesion after treatment.

FIG. 3.—Case 3. Patch in right axilla. Before treatment.

FIG. 4.—Case 3. The same patch after treatment.

FIG. 5.—Case 4. Lesion of chest wall. Before treatment.

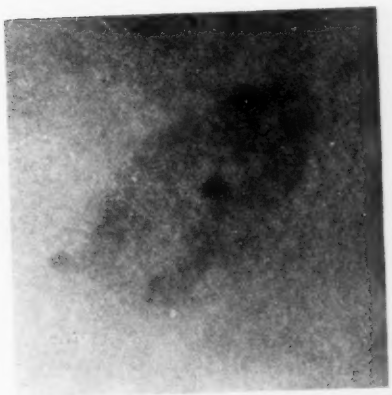


FIG. 6.—Case 4. The same lesion during treatment.

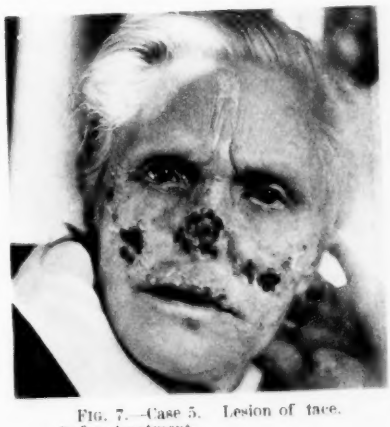


FIG. 7.—Case 5. Lesion of face. Before treatment.

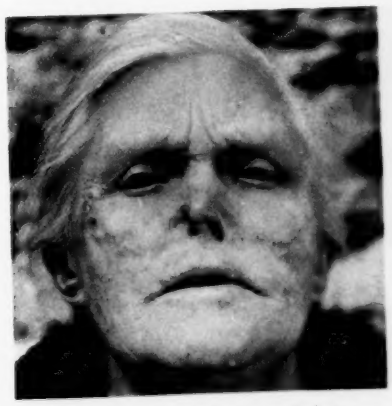


FIG. 8.—Case 5. The same lesion during treatment.

FIG. 1.—The lung before section, showing broken-down adhesions. Some cysts can be seen.

FIG. 2.—The same after section, showing the cysts in middle lobe and bronchopneumonia in base of lower lobe.

FIG. 3.—Radiogram after barium injection, showing the cysts filled with barium.

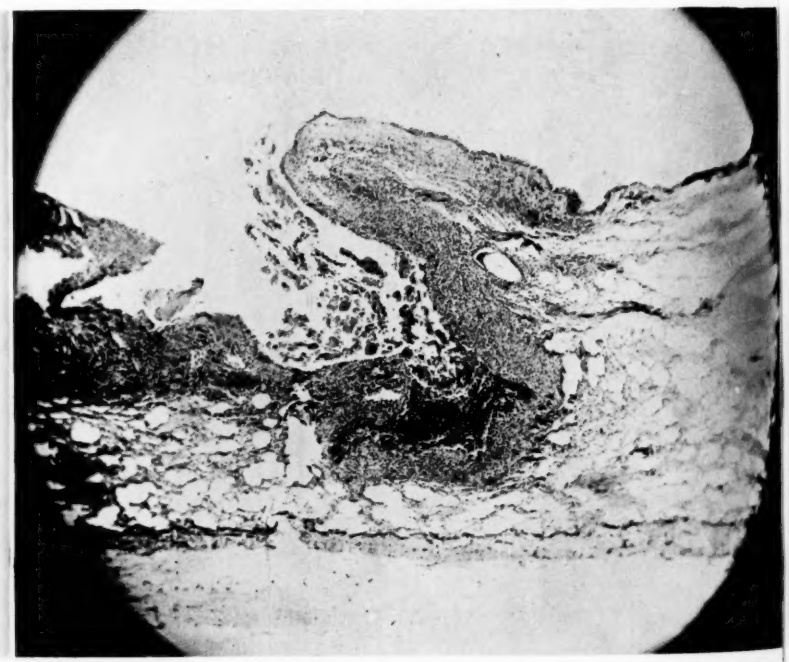


FIG. 4.—Microscopical appearance, showing (1) cavity of a cyst with remnants of barium injection in it; (2) ciliated epithelium lining cyst wall; (3) granulation tissue; (4) collapsed alveoli; (5) pleura.

CEDRIC HILLIARD: CONGENITAL DILATATION OF THE URETER

FIG. 1.—Cystogram showing extent of painless dilatation of the bladder. Antero-posterior view.

FIG. 2.—Cystogram showing the extent of painless dilatation of the bladder. Lateral view.

FIG. 3.—After natural evacuation of the fluid. The solution has filled the enormously dilated ureter and hydronephrotic kidney.

C. E. VAN ROOYEN and G. R. PILE: PLASMODIUM KNOWLESI INFECTION IN MAN

FIG. 1.—Blood film stained by Leishman's method made from the blood of Case I, obtained 15 days after infection: shows large parasites and presence of coarse pigment within them. No enlargement of invaded corpuscles. (× 700.)

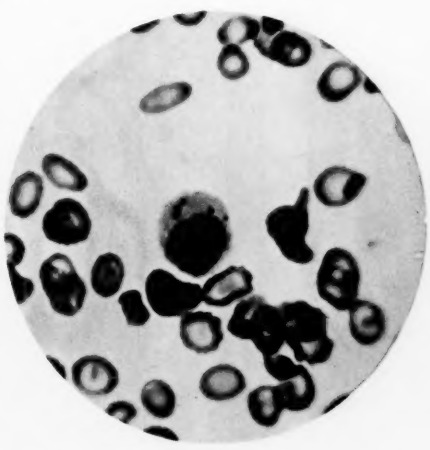


FIG. 2.—Preparation showing presence of darkly pigmented matter within a large mononuclear cell. Film made on 25th day after infection during patient's convalescence. No parasites demonstrable in peripheral blood at this period. (× 700.)

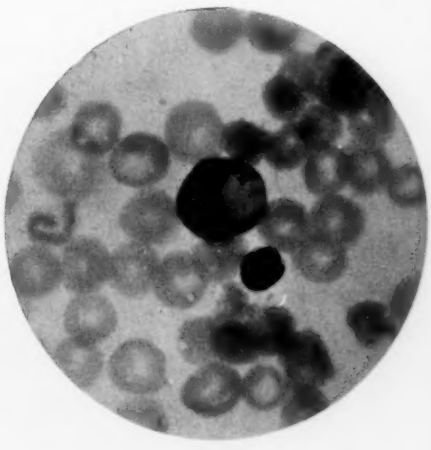


FIG. 3.—Blood film showing parasitized red blood corpuscle ingested by a large mononuclear leucocyte. After administration of quinine. (× 800.)

M. CARLTON OLDFIELD: BILATERAL FRACTURE OF THE FIRST RIB

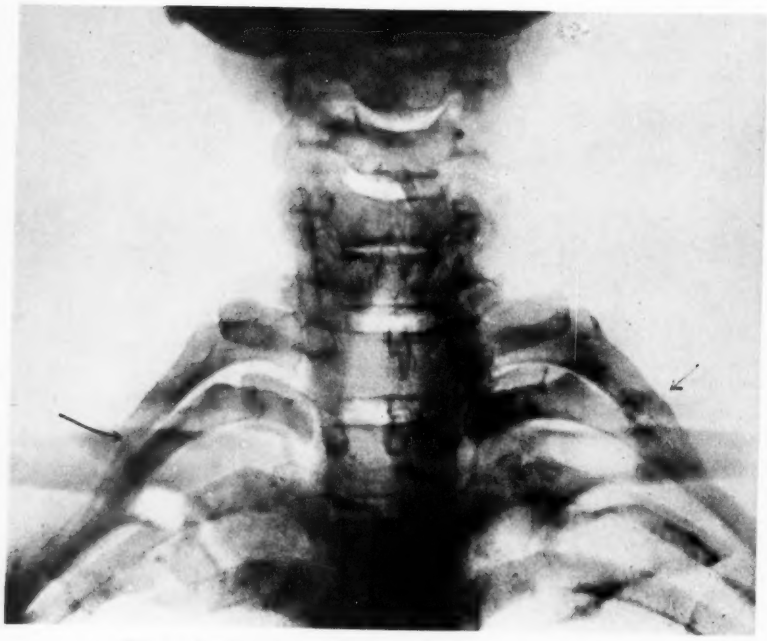


FIG. 1.—Antero-posterior view, showing fracture of both first ribs.

FIG. 2.—Lateral view of cervical spine.

ARNOLD GREENBLATT: CONGENITAL DUODENAL ATRESIA WITH COMPLETE TRANSPOSITION OF THE VISCERA

FIG. 1.

FIG. 2.

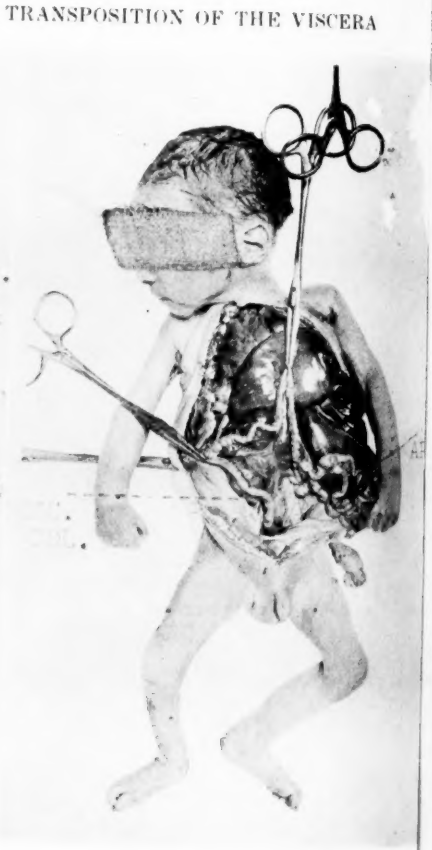


FIG. 3.

THE DEFENCES OF THE AIR PASSAGES

SEMON LECTURE BY SIR STCLAIR THOMSON

The Semon Lecture, under the auspices of the University of London, was delivered at the House of the Royal Society of Medicine on October 31st by Sir STCLAIR THOMSON, who took for his subject "The Defences of the Air Passages."

The lecturer began by recalling that exactly forty years ago he, with Professor R. T. Hewlett, made communications to the Royal Medical and Chirurgical Society and to the British Medical Association on the micro-organisms in the healthy nose and the fate of such organisms in inspired air. The majority of the investigators up to that time believed that "the normal nose was a perfect emporium for micro-organisms." Professor Hewlett and himself, one of them a skilled bacteriologist and the other a rhinologist trained, even in those far-off days, at the fountain-head of aseptic technique, came to a different conclusion—namely, that the presence of pathogenic organisms in the interior of the nose proper was quite exceptional. In the vestibules of the nose, lined with skin and furnished with hairs and sudoriferous and sebaceous glands, micro-organisms were always abundant, but such vestibules were no part of the nasal cavity proper.

The Nose the First Organ of Defence

What were the microbial forces against which the nose had to guard the human body? Five hundred litres of air were inspired per hour. Such a quantity of London air might contain 14,000 organisms. What happened to the invaders, and where were the lines of defence? It had been shown long ago that the air was entirely freed from all germs, not only before arriving in the terminal alveoli, but even before reaching the trachea. Nearly if not all the micro-organisms of the air were arrested before they reached the nasopharynx. Largely this arrest took place in the vestibules of the nose, where the organisms were enmeshed in the mucus-moistened vibrissae. The first factor of arrest was the secretion of healthy mucus. It not only acted like birdlime in trapping the organisms, but, according to some observers, exerted a bactericidal influence. After arrest in the mucus the organisms were rapidly ejected by the action of the ciliated epithelium.

In the anterior portion of the nose, where the mucosa met the in-rushing inspired air, there was no ciliary activity. Posterior to this the mucosa exhibited active ciliary motion. In the deeper area the coverlet of mucus was moved along, like an intact membrane, chiefly by the action of the cilia, but also by traction; in the anterior, inactive area the movement was by traction and gravity. In the latter area the movement was slow; in the deeper, active area the speed was notably increased. In the posterior two-thirds of its extent the nose might be said to have a new coverlet of mucus every ten minutes; in the anterior one-third, about every hour.

The lecturer reminded his audience of some of the characters of mucus. It was composed of mucin 3 per cent., solids 2 per cent., and water 95 per cent. Its osmotic pressure was equal to that of the body fluids, and in reaction it was slightly alkaline or neutral. Nasal mucus was tenacious and yet elastic, extremely pliable and yet resistant to traction. It was moved without friction, and spread in an even, thin, transparent layer. By irritation its flow was increased; helpful if the irritation was moderate, detrimental if excessive and prolonged. If there was too much mucus the cilia were not able to deal with it, and could be seen waving about under it in a futile fashion. If mucus stagnated over an area of inflammation it might be the means of allowing the bacteria which it had enmeshed to grow luxuriantly.

He next proceeded to describe the interaction of mucus and the cilia. The combination of these was the most important weapon in the defence of the air passages; but mucus, if it were not kept constantly on the move by ciliary action, would remain stagnant and become useless, while the cilia without the moist medium of the mucous coverlet would furnish no help in defence. With their multitude of energetic extremities the cilia kept the blanket of mucus on the move, bearing on its surfaces and in its meshes the repulsed invaders. This combined activity was spread over the walls of all the accessory sinuses, the greater part of the nasal cavities, the nasopharynx, and the back of the soft palate down to a level with the atlas; it started again below the vocal cords and extended downwards through trachea and bronchi to the end of the finest bronchiole subdivisions, only stopping where they expanded into the terminal alveoli. The fluids which bathed the surface of the mucosa were not in health bactericidal, or only very imperfectly so, though this view required some modification, since it had been found that the nasal mucus of an individual with a severe cold yielded a culture in which an extraordinary bacteriolytic phenomenon was observed. The name given to the responsible agent for this effect was lysozone, a widely distributed antibacterial ferment, which appeared to play a minor part in the resistance to invasion of the upper respiratory tract.

Characteristics of the Cilia

The lecturer dealt at length, quoting a good deal of recent work on the subject, with ciliary action. He mentioned first of all the vitality of the cilia; their active movements were maintained even after death. A French scientist eighty-four years ago observed cilia in movement in the trachea of a criminal five or six hours after execution, the temperature being from 8° to 12° C.; in another case, where the temperature was 20° C., the movement did not continue for as long. In a piece of human mucosa removed during operation from a frontal sinus, the activity of the cilia was maintained for seventy-seven hours.

The cilia essentially were elastic fibres in communication with and dependent upon the protoplasm of the cell. According to Schaeffer, they were from five to seven microns long. Their length might be taken as about equal to the diameter of a red blood corpuscle. Sharpey was the first to describe the "fanning or listing motion" of the elastic cilium. He it was who likened the movement of cilia *en masse* to the effect produced by wind in a cornfield. Motion photomicrographs suggested not a waving cornfield so much as a multitude of upraised hands, clawing and clutching in one direction. The forward, or effective, stroke had been observed to be five times more rapid than the backward, or recovery, stroke. In the forward movement the tip of a cilium would move with the approximate velocity of one millimetre per second, or twelve feet per hour. Various types of movement were observed in different animals, some of which he illustrated by figures.

With the naked eye the movements of cilia could not be seen; their activity could only be judged by the activity they gave to the visible objects ferried along on the raft of the mucus. The "waving cornfield" or "clawing hands" was the movement known in the laboratory as metachronal rhythm, all the cilia beating at the same rate, but not in the same phase. Ciliary action was not influenced by gravity; it was as rapid uphill as horizontal, and no quicker downhill. As to how the cilia worked in sympathy, in co-ordinated rhythm, and always in the same direction, the lecturer entered upon a picturesque explanation in which he drew upon the analogy of the *Spirochaeta balbianii* found in the oyster and also the regimentation of the perfect Fascist State. The cilia in the human mucosa were firmly anchored together and compelled to keep step and wave in rhythm.

The rate of beat in a cilium was inversely to the size. The lung flagella beat less frequently than the cilia, and the larger cilia more slowly than the smaller. The lecturer mentioned experiments by different workers to test the speed of ciliary expulsion. Proetz, using lipiodol and olive oil, found that healthy sphenoids and ethmoids emptied themselves completely in ninety-six hours, frontal sinuses somewhat faster, and maxillary somewhat slower.

Cilia Regeneration and Response

In the third edition of a textbook for which the lecturer was responsible, published in 1926, the statement appeared: "The ciliated epithelium, when once destroyed, is never renewed." This statement, in view of recent investigations, must be modified. Here the lecturer referred to the work of Knowlton and McGregor, Coates and Ersner, and Gorham and Bacher. The conclusion to be drawn from these experiments was that although there was complete *restitutio ad integrum* of the mucosa of the maxillary sinus in most cases, the new lining, according to some observers, was composed of low-grade, easily reinfected fibrous tissue. While the experiments manifested the possibility of preservation or complete regeneration of the ciliated lining of a diseased sinus, there could never be too great respect given to ciliated epithelium, the first line of defence. The results obtained by one author (Matwejew) after minor operations on the nose suggested that treatment by cautery or acids tended to prevent regeneration of the mucosa, and might contribute to the development of chronic catarrhal conditions.

An interesting study was opened up by investigating the reaction of cilia to external agents, to surrounding conditions, to general states, and to drugs. Cilia could be stirred to greater activity by mechanical stimulation, such as the touch of a needle. The amount of surgical trauma to which a poor nose might be subjected was good evidence of its tolerance of trauma and the power of its defences. There certainly was a "Providence that shapes our ends, rough-hew them as we may." He had often noticed that operations *per se*, contrary even to the best surgical principles, might prove beneficial. Formerly he had put this down to suggestion, the mental effect on the patient of an operation, enhanced by "the mesmeric influence of a surgeon with a one-way mind." But some authors believed that trauma in itself might be a beneficial factor in chronic conditions, disturbing the equilibrium, breaking the impasse or deadlock of "trench warfare" into which the fight between defender and attacker had stagnated, and producing a local reaction which encouraged hyperaemia and an invasion of wandering cells. At all events, it was striking to notice how well tolerated, even if not beneficial, operation might be in chronic lesions, when the same surgical procedures would, in analogous acute conditions, entail grave risks.

With regard to the influence of temperature on ciliary action, it had been shown that the greatest frequency of beat was at temperatures between 18° and 33° C. The beat was slowed by lowering the temperature, and all motion ceased at between 12° and 7°. On raising the temperature it was found necessary at 35° to supply fluids owing to evaporation, at 40° motion was retarded, and at 43° to 44° it ceased. These results were from the recent work of Proetz. It was well to remember that the temperature of the nasal mucosa was altered in a patient with infection, or with abnormal metabolic rates, or with vasomotor rhinitis, or with allergy. The importance of intranasal temperature in pathological conditions was suggested long ago by Brown Kelly, and Leonard Hill, Gray, and others had reached interesting conclusions on this subject. The influence of temperature was well summarized by Starling when he stated that rise of temperature, within limits, hastened, and cold slowed, the rate of ciliary movement.

Ciliary Action and General Conditions

It appeared that pus did not necessarily arrest ciliary action. Cilia might be found persisting in their activity in the presence of even the worst sinus infection. In obstructive sinusitis Lowndes Yates had found the cilia not only active but competent, in early cases, to bring about a cure if the mucosa at the ostium was shrunk with cocaine. Proetz could only surmise that bacteria, penetrating at a single point, could grow and spread indefinitely in the submucosa without incapacitating the overlying epithelium. The explanation of this unexpected discovery, according to Negus, might be sought in the observations of Mittermaier, who found that the *p*H of the tissues did not of necessity correspond with that of the secretions. The tissues were flooded with blood, and their reaction approached the normal figure found in blood.

After touching on the effect which conditions of allergy might be expected to have on cilia and their coverlet of mucus, and also relating some rather contradictory investigations on the effect of a vitamin-deficient diet on the rate of ciliary movement, the lecturer turned to the question of immunity and ciliary reaction. Certain individuals remained "catarrhal" all their lives, and all individuals suffered more from bronchial catarrh at the two extremes of life—childhood and old age—and less from nasal and paranasal inflammation than when in the prime of life. "The individual immunity will shift with the seven ages. Hence the hay-fever adolescent becomes the asthmatic adult, and the infant, though he may mule and puke in his nurse's arms, never sleeps with his mouth open and does not possess a pocket-handkerchief; while the lean and slippered pantaloon has a frequent dewdrop at the end of his nose and is apt to dribble through his open mouth."

Sir StClair Thomson next discussed the question of the condition of the fluid or mucus in which the cilia lived and moved, and summed up the matter again in the succinct words of Starling, that acids or excess of calcium ions slowed, and alkalis or potassium ions hastened, the rate of ciliary action. With regard to the effects of drugs on ciliary action, he again glanced at a good deal of work, recent and less recent. One observer had recorded that chloroform was more poisonous to cilia than ether, though the cilia survived exposure to either of them. Cilia had been found to fail from lack of oxygen, and also after a stream of carbon dioxide had made the water acid. Some drug experiments by Proetz on the cilia of a portion of excised human mucosa showed that cocaine hydrochloride 2½ per cent. produced little effect, but 5 per cent. stopped ciliary movement in from one to three minutes, and 10 per cent. arrested action immediately.

In dismissing at length the defensive arrangements of the nose, the lecturer said that it helped one to appreciate how important were these protections if it was remembered that a solution of potassium ferrocyanide and iron ammonium citrate, dropped into the nasal cavities of rabbits, reached the surface of the brain within an hour. The importance of keeping these avenues healthy would be realized on studying the careful and detailed work of Logan Turner on septic meningitis and cavernous sinus thrombosis, due to a breakdown of the normal nasal defences. The anatomical vulnerability of the nose must always be kept in mind.

Nasopharynx, Pharynx, Trachea, and Bronchi

The nasopharynx had on all its walls the protection of the combined mucus and cilia defence. The upper part was usually sterile, although it was a favourite haunt of the meningococcus. The Eustachian tube, one and a half inches in length, was lined with cilia, and was further protected by the arrangement whereby it opened on swallowing. The local defences were not as various and efficient as those of the nose; in health the air had been filtered before reaching it, and a good part of the duty of the upper throat was to serve as the first section of the pipe which carried off the used-up mass of mucus and its load of dead organisms to be expectorated or swallowed.

The pharynx was covered with stratified epithelium and was devoid of cilia, but it contained the lower half of Waldeyer's ring, and was well supplied with mucus. The organisms encountered here were too numerous and various to discuss, but it was ready to deal with them, with the aid of saliva (of which from one to three pounds might be secreted daily). The defensive arrangements of the pharynx arrested and carried off the invaders to that great destructor, the stomach, the efficiency of which in completing these defences of the airways might be evidenced by its capacity to destroy haemolytic streptococci. The stomach was constantly at work and generally equal to its task, though doubtless overladen at times by the demands made on its energies by an excessive supply of food and of drink.

Were the tonsils defensive outposts? If so, were they of great importance, and during which ages? Had they a purpose, or were they only vestigeal remains? Knowledge of the physiological functions of these glands, which were possessed by most mammals, was lacking.

The air passages below the larynx were not tubes of unvarying calibre. It was sometimes forgotten that the bronchi—and still more the trachea—were possessed of a definite musculature, although more than a century ago the presence of smooth muscle fibre was demonstrated in the bronchial tree by Reisseisen.

The Larynx as a Defender

The larynx was a valuable defender of the human body. By closure it protected the lower airways from invasion, and by the fixation it gave to the chest it strengthened effort. Moreover, when internal defences failed, it was the larynx which gave voice for help. The larynx was unprovided by cilia ; these ceased at the level of the atlas, to reappear below the vocal cords. The cords were covered with pavement epithelium, unprovided with glands, but well lubricated, like the area above them, with the mucus which this region supplied. The used-up mucus, bearing its load of arrested dust and organisms, was brought up from the trachea, chiefly along its posterior segment, until it collected in the interarytenoid region in sufficient quantity to excite a cough or simply a swallowing movement. With each act of deglutition the cords were compressed together and the flow of mucus from the ventricles of Morgagni was driven across their surface towards the oesophagus, clearing away with it adherent impurities. At every inspiration the bronchial and bronchiolar musculature was released and the air tubes expanded. At the beginning of expiration the muscle fibres in the air tubes contracted and reduced the lumen of all the tubes, the effect being least marked in the trachea and most pronounced in the smaller bronchi. During a cough this expiratory closure was still more marked, the bronchial walls almost closing, and at the same time shortening. If the bronchial mucosa was at all inflamed the lumen of the finer air tubes might be entirely closed during cough and even during forced expiration. These movements tended to squeeze secretion out of the smaller bronchi.

Should any organisms succeed in passing the larynx they could still be dealt with by the mucus covering and the abundant cilia of the lower tubes, or they might be carried away by lymphatic drainage, or die *in situ* ; again, they might be absorbed through the mucosa, and if the organisms were virulent they might enter the blood stream and set up a rapidly fatal infection.

The lowest and last defence against aerial invasion was the alveolar cells. Here the cilia ceased to muster, but the mononuclear cells present in the alveoli were powerful phagocytes.

Dust Invasion

In the final part of his lecture Sir StClair Thomson dealt with the problem of atmospheric dust in the air passages. The airway defenders were able to repulse pathogenic invaders, but others, of little or no clinical importance, such as atmospheric dust, were allowed to effect a peaceful penetration. To deal drastically with a smoke-laden atmosphere was more than our defences could manage.

The efficiency of the nose as a filter in an artificial dust-laden atmosphere varied very much in different individuals. In some not more than 30 per cent. of the particles passed through ; in others hardly any dust was arrested. Silicosis had been shown to be much more frequent in miners with marked susceptibility than in those with good nasal filters. The inhalation of dust by the city dweller, giving him a pigmented lung, was, they were told, of no clinical importance, but when this amount was increased, as in coal mines, or when the inhaled dust was not so relatively harmless as carbon, serious pulmonary changes developed. All dangerous dusts had one factor in common—their content of free silica.

The nose in earlier textbooks was regarded as merely the organ of smell, itself considered a vestigial sense. There was little reference to the important respiratory functions of the nose. Yet mouth-breathing had been regarded as a danger in quite early times. It was an Elizabethan poet who said: "See to thy mouth, diseases enter there." North American Indian squaws taught their papooses to keep the mouth closed, though this was not considered as a measure of hygiene, but as a means of avoiding evil spirits which entered through the open mouth. Scientifically conducted experiments had now shown the importance of the nose in normal respiration. However cold and dry the outside air might be, it was raised almost, if not quite, to the temperature of the body, and completely saturated with moisture, while traversing the nose. Respiration through the nose appeared to be the constant rule of infancy and early childhood. Only quite exceptionally, as in laughing and crying, was the mouth used as an additional inlet of air in early life. For adults it might be another matter, and after stressing the importance of the defensive powers of the nose it came as a surprise to be shown patients who for years had lived well and comfortably with little or no nasal defence, not even breathing through their mouths, but through a permanent opening in the neck, and the lungs alone, without the filtering nose, were able to moisten and warm the air they inspired and to deal with the enemies it might contain. (He showed two cases, each with a permanent tracheostomy, and a third in which a complete laryngectomy was performed. The health and spirits of these patients were good ; they rarely got "colds," and they believed that they contracted catarrh and bronchitis to a less extent than their fellow-workers.)

In concluding his comprehensive lecture Sir StClair Thomson said that his chief purpose had been to show the complexity and perfection of the defences of the airways, to appreciate their arrangements, their activities, and their compensatory interactions, and to encourage interest in normal processes as a necessary first step to the study of disease.

MOTOR CARS FOR 1936

THE OLYMPIA SHOW

[FROM OUR MOTORING CORRESPONDENT]

(*Concluded from Page 797*)

The Motor Show at Olympia, which came to an end on Saturday last, appears to have been one of the most successful for several years past, the attendance of the public having shown a considerable increase. One noticeable feature was the growing interest which is being shown by women drivers in the technical details of cars rather than in mere external appearance—although there is no doubt that the feminine influence has had a pronounced effect on the latter.

A Price Analysis

An analysis of car prices would appear to indicate that the vehicles most likely to meet the requirements of the majority of medical men fall in the £200 to £350 category. Even below these figures there continues to be a wide selection of cars, all of which, although relatively small and low-powered, would meet the needs of many doctors. Thus up to £135 there is a choice of six small saloons—namely, the Austin "Seven," the Ford "Popular" and "de Luxe," the Morris "Eight," the new Singer "Bantam," and the Standard "Nine." Between £150 and £200 there are nearly twenty models to choose from, ranging from the 7-h.p. two-cylinder Jowett to the 12-h.p. six-cylinder Wolseley "Hornet." Again, between £200 and £250 there is a selection of about sixteen cars, from the 13.9-h.p. Austin and 12-h.p. Vauxhall at £205 to the six-cylinder Morris with 16-h.p. or 18-h.p. engine at £250. Noteworthy cars in the £250 to £300 group are the 12-h.p. Armstrong-Siddeley, at £285 ; the 20-h.p. Hillman "Hawk" at £295 ; the 12.51-h.p. Frazer-Nash-B.M.W., the Lanchester "Ten," and the 14-h.p. Rover, all at £298.

Finally, between £300 and £350 there are the 17.9-h.p. Austin, the 14-h.p. Armstrong-Siddeley, the 20-h.p. or 27-h.p. Vauxhall, and the 21-h.p. or 25-h.p. Wolseley, all, of course, with six-cylinder engines. For those medical men with longer purses there are naturally some excellent vehicles, such as the Daimler "Fifteen," at £465, and the Humber "Snipe," at £475. In the following brief notes on the different makes of cars for the 1936 season reference is made only to those which in design and cost appear likely to appeal to the majority of medical men.

Armstrong-Siddeley and Austin

So far as the chassis are concerned only detailed improvements have been found necessary in the Armstrong-Siddeley six-cylinder cars, all of which are, for the eighth year in succession, fitted with preselective change-speed gearbox. The range includes the 12-h.p., 17-h.p., and 20-h.p. models of last year, together with a new one known as "Twelve Plus," which is provided with a larger engine than the 12-h.p. Although the annual tax is slightly higher than the "Twelve" the bodywork is more roomy, while the additional power results in better acceleration and general performance. With coach-built saloon body the new model is listed at £305. For the 1936 season the Austin Company is retaining its range of cars from the "Seven" to the "Twenty," but with numerous detail improvements. The "Seven" now has more powerful brakes and the "Ten Four" has been provided with hydraulic shock absorbers. The 12-h.p. vehicles, with four- or six-cylinder engines, have improved steering gear and a down-draught carburettor to give increased power and more rapid acceleration. On the "Sixteen," "Eighteen," and "Twenty" models the brakes and steering have been improved, and the Jackall hydraulic four-wheel jacking system is provided as part of the standard equipment. Prices of certain of the Austin models are slightly lower than last year.

British Salmson, B.S.A., and Citroën

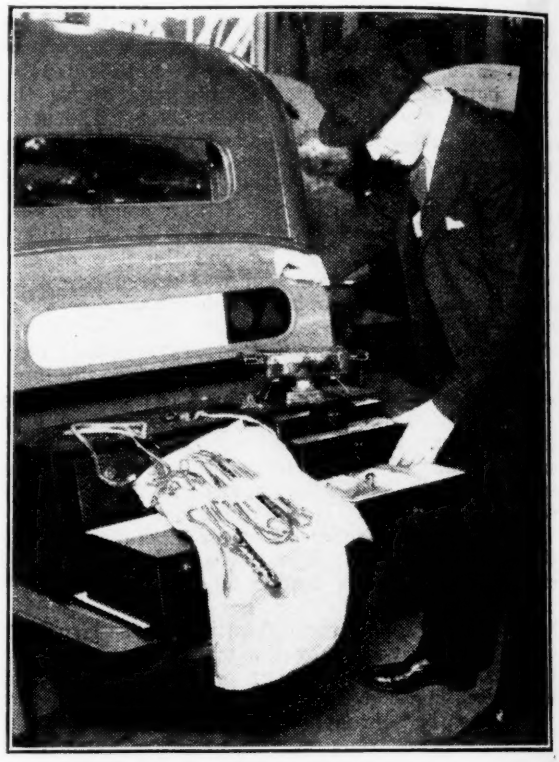
In addition to the 12-h.p. four-cylinder car introduced last year, the British Salmson Company has brought out a 20.8-h.p. six-cylinder model, which, although intended mainly for sports drivers, is interesting by reason of its independent front-wheel suspension. Continuing their distinction of being the lowest-priced cars equipped with the Daimler fluid flywheel transmission and preselective change-speed gear, the B.S.A. models, which are largely unaltered from last year, comprise 10-h.p. four-cylinder and 12-h.p. six-cylinder cars, the de luxe saloons or fixed-head coupés of which are listed at £225 and £275 respectively. The Citroën Company is not only continuing the 12-h.p. four-cylinder car with front-wheel drive as well as independent wheel suspension, so contrived as to obviate the employment of the usual chassis frame, but has adopted the same method of construction in a new 15-h.p. model, which, as a saloon, is listed at £315. The Citroën "Ten," which is of more conventional design, is continued as a saloon in improved form at £198.

Crossley, Daimler, Fiat, and Ford

The Crossley Company has reduced its range of models from four to three, the most noteworthy being the 10-h.p. four-cylinder "Regis" saloon at £335 and a 13-h.p. six-cylinder car at £365. Apart from the high-powered models, chief interest in the Daimler vehicles lies in the 15-h.p. saloon at £465, and in a new "Light Twenty" at £675. Both these cars, like the Lanchesters referred to below, are, of course, fitted with the Daimler fluid flywheel and preselective change-speed gear, and also with automatic chassis lubrication and the Stevenson four-wheel jacking system. Chief interest at the Fiat stand centred on a new 16-h.p. six-cylinder chassis, the outstanding features of which are the special type of chassis frame, in which the usual side members are replaced by a girder type "backbone," and independent front-wheel suspension. As a de luxe saloon with sunshine roof the vehicle sells at £298. The 11-h.p. four-cylinder "Balilla" model has been reduced in price, the sliding roof saloon being now listed at £185. Reference has already been made to the new Ford 22-h.p. V type eight-cylinder saloon, which sells at £220. One of the surprises of Show week was the reduction of the price of the "Popular" 8-h.p. saloon to a level £100.

Frazer-Nash, Hillman, and Humber

From the medical man's point of view one of the most interesting cars at Olympia was a 12.51-h.p. Frazer-Nash-B.M.W. saloon, shown on the stand of A.F.N. Ltd., built to the order, and provided with a number of special fittings to the specification, of a London specialist. The rear compartment (illustrated below), usually used as a luggage boot, is equipped with chests of drawers, all fitted with locks, in which instruments, drugs, and other surgical requirements can be neatly and safely housed. The object is, of course, to foil thieves. The chassis of the vehicle is also on thoroughly up-to-date lines, comprising as it does independent front-wheel springing. The A.F.N. Company also makes a series of four- and six-cylinder sports cars. The well-known Hillman "Minx" 10-h.p. car, while unchanged in price, has been entirely redesigned. By locating the engine further forward in the chassis, the seats have been brought within the wheel-



base to provide more comfortable riding for the passengers. In other ways, too, the "Minx" has been improved, rendering it, at its price, an attractive model. The Hillman Company has also brought out three new types of six-cylinder cars, noticeable features of which are the box-girder chassis frame and a new system of independent front-wheel suspension to which the name "Evenkeel" has been given. Of the three models those likely to appeal to medical men are the "Hawk," with 20.9-h.p. engine, and the "Sixteen" (16.9 h.p.), the saloons of both of which are offered at the same price—namely, £295 in standard form and £320 de luxe. Allied as it is with the Hillman productions, the Humber Company has also adopted the "Evenkeel" suspension on its 18-h.p. and 26.8-h.p. six-cylinder cars. The 12-h.p. four-cylinder Humber is continued in improved form, but has the more conventional suspension system. The bodywork fitted to the vehicle is of most attractive design.

Jowett, Lanchester, and Morris

In addition to continuing the 7-h.p. car with horizontal two-cylinder engine, on which its business has been built up, the Jowett Company has this year added a 10-h.p. four-cylinder model, the horizontal cylinders of the engine being arranged in pairs on each side of the central crank-case. Special features include a built-in wheel-jacking system and hydraulic shock absorbers. Two types of saloon cars are available, one being listed at £197 10s. and the other at £215. In view of the reduction of the annual tax on cars,

the Lanchester Company has increased the engine size of its "Ten" four-cylinder and "Eighteen" six-cylinder cars. The "Ten" saloon is slightly lower in price, ranging from £298 for the standard model to £325 for a drop-head coupé. The same chassis is also being supplied with a 12-h.p. six-cylinder engine at slightly higher prices. The Morris Company has recently adopted the plan introduced many years ago by the Rolls-Royce Company of denoting cars by series numbers instead of by the year of manufacture, introducing improvements as and when found necessary and desirable. The handy Morris "Eight" four-cylinder car is continued practically as last year, with saloons ranging from £120 to £142 10s. The popular "Ten Four" has in recent months been completely redesigned, and, like the bigger cars of the same makers, is provided with the modern form of roomy semi-streamlined bodywork. The seats are now well within the wheelbase. The Jackall wheel-jacking system has been installed, and accommodation for luggage is now provided behind the squab of the back seats, access thereto being from the interior of the car. Saloon prices range from £172 10s. to £182 10s., while for an additional £5 the same chassis can be fitted with a 12-h.p. four-cylinder engine. The Morris range is completed by four six-cylinder cars, all having a new design of bodywork and the special features of the "Ten Four." In the case of the "sixes" purchasers have the option of a 16-h.p. or 18-h.p. engine at the same price—namely, £265—for the sliding-head saloon, and in the case of the biggest cars either a 21-h.p. or 25-h.p. engine can be obtained at £280. One of the most novel vehicles in the exhibition was that known as the "Mastra." The latest production of Trojan, Ltd., this is fitted with a horizontal six-cylinder two-stroke engine, located, together with the three-speed gear, at the rear of the chassis. Among other details are the Jackall hydraulic wheel-jacking system, and a flush-fitting foot-warmer in front of the rear seats, through which hot water from the engine-cooling system circulates. As a saloon the new "Mastra" is listed at £395, and as a drop-head coupé at £380. The Trojan Company is also continuing its 10-h.p. four-cylinder car.

Renault, Riley, and Rover

One of the oldest of French-made cars is the Renault, which ranges from a 12-h.p. four-cylinder to a 35-h.p. "straight-eight," new features of which are the increased width of the bodywork, which enables three persons to be carried on the front as well as the rear seats. The Riley cars for 1936 include a new "Nine" four-cylinder chassis with "Merlin" saloon body at £269, and an 18-h.p. V type eight-cylinder vehicle with automatic clutch and four-speed preselective gearbox, the saloon of this model costing £450. A car which is steadily gaining in popularity is the Rover, which, although only altered in small details, is quite up to date as regards both the chassis and the bodywork. The range includes the "Ten" (10.8-h.p.) and "Twelve" four-cylinder models with saloons at respectively £248 and £278, and a "Fourteen" six-cylinder car provided with either saloon bodywork at £298 or with streamlined coupé body at £348. Features common to all the models are automatic chassis lubrication and an easy wheel-jacking system.

Singer, S.S., and Standard

Among the new small cars at the Show was the "Bantam," lately brought out by the Singer Company, a handy little four-seated vehicle fitted with a 9-h.p. four-cylinder engine, four styles of saloons being available, at from £127 10s. to £145. The Singer "Nine," with independent front-wheel springing, is continued, while in the 11-h.p. range there are, in addition to the saloon with the special suspension and what is known as the "fluidrive" transmission, popular and de luxe saloons with the more conventional springing and transmission introduced at £215 and £230 respectively. There is also a Singer 16-h.p. six-cylinder car. The younger class of medical men will doubtless be interested in the new series of cars known as the "Jaguar," introduced by S.S. Cars, Ltd., these being low-built, with bodywork of the latest design. Two models are being produced—12-h.p. four-cylinder and 20-h.p. "six," both being provided with four-door saloon bodies, at £285 and £385 respectively. As usual, the Standard Company has an attractive range of cars, including 9-h.p., 10-h.p., and 12-h.p. four-cylinder, and 16-h.p. and 20-h.p. six-cylinder. All the different models embody many detail improvements, including x-braced chassis frames with welded joints, four-speed synchromesh gearboxes, and an easy wheel-jacking system. Three of the models, 10-h.p., 12-h.p., and 16-h.p., have the new telescopic steering column, instantly adjustable to suit drivers of different stature. The four-cylinder cars range in price from £135 to £229, and the "sixes" from £269 to £395. Just before the Show the company sprang a surprise by the introduction of a series of 12-h.p., 16-h.p., and 20-h.p. "Flying Standards," which, although a little more costly than those referred to above, comprise many new departures. In the first place the cars are wider, enabling three persons to be carried within the wheelbase on both the front and rear seats; the bodywork is also more streamlined, and embodies at the rear a covered boot with three compartments—two for luggage trunks and one for the spare wheel and tyre.

Talbot and Triumph

Another new car which may appeal to young doctors is the Talbot "Ten," the first four-cylinder model built by this concern for some years. As a saloon it is priced at £265, and while of conventional design as regards the mechanical lay-out, is of high-grade construction, and provides a speedy vehicle of modern low-built design. The Triumph Company is largely concentrating its output on two models of the "Gloria" cars—11-h.p. four-cylinder and 16-h.p. "six"—both of which are excellent examples of up-to-date automobile construction, as regards both chassis and bodywork.

Vauxhall and Wolseley

Producing one of the most popular series of cars of the past season, Vauxhall Motors, Ltd., have not found it necessary to make any material changes in the Vauxhall "Light Six"—a feature of which is the independent front-wheel springing—which, with 12-h.p. engine and standard saloon body, sells at £205, or in de luxe form, with either 12-h.p. or 14-h.p. power unit, at £225. The Vauxhall "Big Six," which is supplied with either 20-h.p. or 27-h.p. engine at the same price, has been improved in numerous details, notably as regards the frontal appearance and in the seating, the latter being now of what is termed the "body conformity" type. The prices range from a saloon with no-draught ventilation at £325 to a "Wingham" cabriolet at £395. Finally there is the Wolseley series of cars, which comprises the 9.8-h.p. four-cylinder "Wasp," the 12-h.p. "Hornet Six," and the 14-h.p., 16-h.p., 20-h.p., and 25-h.p. six-cylinder vehicles. As regards appearance, constructional details, and price, all these vehicles are well worthy of attention, particularly, perhaps, the "Family" 14-h.p. de luxe saloon, which is listed at £235.

Accessory Section

As was mentioned last week, the galleries of the Show are always worth a visit, as a walk round them usually reveals a number of accessories which not only add to the comfort and convenience of motoring, but also facilitate keeping one's car in good running order. At this period of the year, when keen frosts may be expected at any time, such anti-freezing additions to the radiator water as Smith's "Bluecol," Price's "Zero," and the C.C.C. "Stop-it-Freezing" are of interest. Again, difficult engine starting on cold mornings can largely be overcome by the use of either an engine- or a garage-warmer. Among these devices I came across a new one known as the Radyhot "Dual" heater. This is a kind of paraffin lamp made on the principle of a miner's safety-lamp, so that it may be safely laid on the garage floor under the engine. In this way it not only prevents the radiator from freezing up, but also keeps the oil in the engine base chamber warm, and so facilitates starting up and reduces the drain of current on the accumulators. The lamp will burn for about a week without attention. S. Smith and Sons have so developed their Jackall hydraulic four-wheel jacking system that it has now been

adopted as a standard fitting by several car manufacturers. It can also be readily fitted to old vehicles. Two of the most useful of Smith's accessories for medical men are perhaps the "Car Reminder," introduced last year—a small memo pad in a chromium-plated frame adapted to be clipped to the rim of the steering wheel—and a car lock which is screwed over the ball joint of the change-speed lever. With this device, which has a Yale lock and key, in position it is only the work of a moment to lock the gear lever in neutral, so that the car cannot be stolen while the doctor is visiting his patients.

Now that the dark days have been reached, when the lamps of a car will be brought into greater use than during the summer period, medical men, especially those in country districts, who are apt to be frequently called out at night, should have the bulbs of the lamps overhauled. Like those used for house-lighting purposes, these are regarded as having a useful life of about 1,000 hours, after which their lighting capacity falls, and there is a risk of broken filaments. It is therefore wise to have the old bulbs replaced by new ones. It is advisable, too, to carry a supply of spare bulbs, as it is very inconvenient to have a breakdown in the lighting, particularly if this should happen at a time when the garages are closed for the night. Small cases containing spare bulbs are made by Lucas's and all the principal lamp manufacturers, and they can be ordered through one's local garage, it being only necessary to specify the capacity and voltage of the bulbs desired, which information is generally given in the instruction book supplied with the car.

C. J. W.

THE ECONOMIC CONDITIONS OF MIDWIFERY PRACTICE

The Fynes-Clinton Memorial Lecture was delivered at the Midwives' Institute on October 24th by Lady FORBER (Dr. Janet Lane-Claypon), who made a preliminary report on the present conditions of midwifery practice, based on a questionary issued by the Institute to 8,000 independent midwives in England and Wales. Lady WILLIAMS occupied the chair.

Lady Forber said that roughly one-half of the 8,000 midwives had responded to the questions asked. She had started to analyse the replies, taking first of all certain geographical areas—namely, Yorkshire and Durham—and, in order to discover whether there was any difference between the North and the South of England, she had included Hampshire. She was afraid that the same difficulties obtained all over the country. They varied in intensity in different areas, but they were found in the whole of them.

The intention of the schedule was to find out the present economic conditions of midwives, and they were asked to state how many years they had been in practice, how many cases they attended a year, the fees paid, and the expenses to which they were put. This last question, however, was very difficult to answer, and no common factor could be used in analysing the replies, and the same applied to a question about the midwives' dependants and domestic liabilities. In the West Riding and in Durham there appeared to be no differentiation by the mothers in the selection of midwives according as to whether the midwife was married, widowed, or single. With regard to the age of the midwives, a surprisingly small proportion were under 40, and of those under 40 very few had been in practice for more than about five years. The number of midwives under 30 was so small that it need hardly be taken into consideration. The greater proportion were between the ages of 40 and 50, and over 50 the number of midwives or the size of their practices began to diminish.

Statistics

The number of midwives and cases attended by them in 1934 in the area chosen was as follows:

Area	Number of Midwives	Number of Cases	Average Number of Cases per Midwife
West Riding	278	13,687	49
North Riding	37	1,542	42
East Riding	36	2,695	75
Durham County ...	148	10,354	70
Hampshire	87	5 694	65

Of the 586 midwives practising in these areas in 1934, 473 were practising in 1929. She could not believe that in the areas concerned over 100 midwives during this five-year period had died or gone into retirement, and she was afraid they had to face the fact that in these areas there had been a very large influx of midwives into the profession—an influx so great that the profession could not really assimilate it. That was one of the chief difficulties of the present time—that there were far too many midwives in practice.

The size of midwives' practices might be judged from the following table:

Area	0–	50–	100–	150–	200 or Over	Total
Yorks, W. Riding	132	83	28	8	1	252
,, N. Riding	24	10	2	1	0	37
,, E. Riding	18	8	7	0	3	36
Durham County	66	41	27	11	4	149
Hampshire	44	26	12	4	2	88
Totals	284	168	76	24	10	562

Thus 50 per cent. of the midwives in these areas undertook fewer than fifty cases in the year. There were a large number of midwives at the present time who could not give their whole time to the work, but the majority declared that they could not get the cases.

She next calculated the maximum earnings of the midwife, supposing her to have had full fees for all her cases, and she made appropriate adjustments for the extra fee paid in the case of the primiparous woman. The table showed that of the 562 midwives in these five areas 185 had a maximum income of under £50 a year, 149 had an income of between £50 and £100, ninety-one an income of between £100 and £150, and the remainder an income of over £150. Very few of these midwives were earning what could be called a reasonable livelihood. The fees varied according to circumstances. In some good residential areas the fees charged varied from 47s. to 60s., but the number of midwives who could command these fees might almost be counted on the fingers. A fee of 42s. for the primiparous woman and of 30s. or 35s. for the multiparous was very common. Many of the midwives complained of undercutting by organizations, or by other midwives, or by doctors. Many of them also complained of inability to collect fees, one woman stating that her bad debts amounted to £30 a year.

The Midwives' Problem

It arose inevitably out of these conditions, said Lady Forber, that there was not a real whole-time midwifery service but an army of part-timers all over the country—women who must take up something else besides midwifery if they were going to live at all. Very few pro-

fessions could support an army of part-timers. For the majority of practising midwives at the present time there was in the midwifery profession not a living wage. This pointed to the urgent necessity of making an alteration in the portal of admission to midwifery practice. At present there was very little difficulty in the way of a midwife getting permission to practise. She marvelled at the devotion of the midwives to their work, notwithstanding its inadequate pay and poor conditions. The only answer could be that they loved their work. But so long as it was possible for many people to take up the training of a midwife as a side-show and come into practice at any time and in any area they chose to select there was bound to be the present chaos. Some better arrangement might also be made with the local authority on the question of payment for necessitous women. In many areas there was bitter complaint over the midwife's difficulty in obtaining her fee in necessitous cases. She thought this matter could be well taken up by some central authority. It was a case for national agreement.

Another question of great importance was that of the handywoman. It was not the handywoman in the midwives' cases who was causing the difficulty, but in the doctors' cases. Many mothers could not afford the service of a doctor and a midwife both, and therefore they had a doctor and a handywoman. There appeared to be no solution of this difficulty, unless it was laid down that a doctor and a midwife should be definitely accessible for every case, the doctor being given a retaining fee to be called in if necessary. But even if a midwife were employed in every case it would not solve the problem unless the fees were also raised, because the midwives on present rates of remuneration could not gain a reasonable livelihood. There was no clean-cut solution.

Another complaint made by the midwife was with regard to hospital competition. The cost of a maternity bed in hospital must be much greater than the cost of a midwife to the local authority. A hospital bed could not cost less than £6. On the other hand, hospitals were necessary as training schools for the midwives themselves, and for that purpose they must include a certain proportion of normal cases. There seemed to be no way out of this vicious circle. One consideration to bear in mind was that many women were frightened into going into hospital, believing, quite without basis, that hospital midwifery was safer than domestic midwifery. In that connexion she called attention to the resolution passed at the Annual Representative Meeting of the British Medical Association in July last regretting that the question of maternal mortality had become the subject of widespread political discussion, and expressing the view that the publicity which it was receiving was tending to terrify child-bearing women, and was in itself a cause of increased mortality. She thought that that resolution ought to have much more consideration by the authorities than apparently it had received up to now.

Lady Williams, from the chair, said that there was no doubt that many prospective mothers were frightened by the campaign in the Press, and there was an idea that the present high mortality rate occurred in cases attended by midwives. That most emphatically was not true. She quoted figures for the county of Middlesex for 1900 to 1934, which showed that the death rate in cases attended by midwives (including cases to which a doctor had been summoned by the midwife) was only 1.88 per 1,000 births, as against a death rate for the whole country of between 4 and 5 per 1,000 births.

We have received the first issue, published in June at Buenos Aires, of a new quarterly journal entitled *Revista de Medicina aplicada a los Deportes, Educacion Fisica y Trabajo* (Review of Medicine Applied to Sport, Physical Education, and Work). The issue contains original articles on physical education and training, recent researches in the physiology of work, variations in human morphology according to age and training on high mountains, abstracts from current literature on physical medicine and sport, and the proceedings of the first meeting of the Argentine branch of the International Union of Sport and Medicine.

Ireland

Royal Victoria Hospital, Belfast

In his opening address for the winter session to the students at the Royal Victoria Hospital, Belfast, Dr. Robert Marshall, physician to the institution, gave an interesting historical account of its early development. He prefaced his remarks by pointing out that a hundred years ago the Belfast Medical School had been formally opened as a department of the Royal Belfast Academical Institution, and it was a happy coincidence that to-day the chairman of the board of governors of the Institution, Professor R. J. Johnstone, should be also chairman of the honorary staff of the hospital. The following is an abstract of Dr. Marshall's address.

A Historical Survey

In 1792 an appeal was issued by thirty-nine Belfast citizens for funds to found a general dispensary for the sick poor. It stated that "as soon as subscriptions have amounted to £50 the subscribers shall proceed to nominate an apothecary, two physicians, and two surgeons, and also such other officers as may tend to secure order, permanency, and utility to so laudable an undertaking." The sum was quickly raised, and at a meeting of subscribers forty-eight laws and regulations were approved. The Belfast Charitable Society provided rooms, and the work proceeded, the surgeons dispensing the medicines for the physicians. In 1797 financial support had almost ceased, and it was decided to make a special effort to found a small hospital. After several meetings public interest was sufficiently aroused to justify the taking at an annual rent of £20 of a house in which a nurse and six bedsteads were installed, but only five months later the slender capital was exhausted and the hospital was closed, having treated sixty patients with only one death. Two years later the undaunted Dr. James McDonnell, who had been in the fight from the beginning, was once again in action, and with funds derived mainly from a special sermon a fresh start was made. Three houses in Smithfield were rented, and Dr. McDonnell was appointed physician. In 1803 finances again ebbed, and at a special meeting of the committee a subscription of five guineas each was raised on the spot to prevent the institution from sinking into oblivion again. So the hospital kept its doors open, and thenceforward steadily gained the appreciation of the public. In 1810 Dr. McDonnell and his colleagues obtained a plot of ground in Frederick Street; in 1815 the architect's plans were approved, and the foundation stone laid of a building which was completed at a cost of £5,000. Its walls were still wet and its staircases scarcely secure when its first patients were admitted on August 1st, 1817. During this year a resolution was passed by the staff "that the physicians and surgeons of Belfast should be invited to place their pupils there to acquire experience by observing its practice, and in the course of a few years it might become a school of physic and surgery of no trifling importance to the young medical students of this neighbourhood and the province of Ulster." It was not until 1820 that the admission of pupils was authorized, each physician or surgeon being then allowed to introduce one pupil to assist in the care of his own patients, and each to be responsible for the conduct of his pupil. The first house-surgeon to be appointed took office in 1838, and the first house-physician did not appear until 1882. Dr. Marshall remarked that this system of resident pupilship had been for over a century the distinctive feature of Irish medical teaching, and it was interesting to note that the General Medical Council now apparently desired to introduce it into the English and Scottish schools. In 1827 Dr. McDonnell, then 65 years old, gave the first clinical lecture, taking systematic medicine for his subject. The need for a medical school was even then keenly felt. Ulster students went in considerable numbers to Dublin and Edinburgh, and Dr. Marshall added that it was sad to read in a letter written by one of them that "to be a student of medicine is a term of contempt, but to be an Irish

student of medicine is the very highest complication of disgrace." So they must have been pleased when the Royal Belfast Academical Institution, which had been founded in 1810, opened a medical department in 1835 with a distinguished team of professors. In 1830 the hospital committee and staff, in the midst of a typhus epidemic, were faced with the advancing terror of Asiatic cholera. The sum of £700 was raised, a special building was erected as a cholera hospital at the rear of the Frederick Street Hospital, and a large building in Lancaster Street was rented for the quarantine of contacts. In addition, two cholera stations for night medical attendance and a supply of palanquins to take patients to hospital were established in different parts of the city. Four months later the first case appeared, and was correctly diagnosed. Before the end of 1832 2,870 persons had been attacked, with 480 deaths. The second cholera epidemic in 1849 gave rise to 2,051 cases, with a death rate of one in three. In the annual report of the hospital for 1847 it is stated that "seven dispensary doctors contracted typhus fever but all recovered, a fact particularly gratifying to your committee when it is considered that the mortality from fever among the medical profession in Ireland during the past year has been considerably greater than that of the British officers engaged in the Peninsular War." In 1845 Dr. James McDonnell died at the age of 82. When he began practice in Belfast the population was approximately 14,000; some few years later it is known that there were nine doctors in practice. He lived to see the population grow to some 85,000, with about seventy medical practitioners, and during that lifetime he had, largely by his own enthusiasm, created what is now the Royal Victoria Hospital and the medical school. The dispensary and fever hospital were particularly the objects of his unceasing care. So long as health permitted he was to be seen working in the districts like a very slave, or toiling in the wards for hours. In 1845, also, Dr. Andrew George Malcolm became a physician to the hospital; he was a great clinical teacher and a pioneer of sanitary reform. He was the first to advocate the medical examination and supervision of factory workers, and he wrote in 1851 the history of the Belfast General Hospital. The Charters and Mulholland wings were added to the Royal Victoria Hospital in 1865. In 1903 the present hospital was opened at a cost of £120,000, and subsequent additions of the King Edward Memorial building, new wards, laboratories, and the *x*-ray department followed in due course. Dr. Marshall ended by emphasizing the great tradition which the Royal Victoria Hospital in its early struggle for existence and its later glorious expansion had created for all time.

Public Health in Dublin

Dublin is to have one large fever hospital in which all fever cases will be treated. It will be controlled by a board consisting of representatives of the present board of Cork Street Hospital, of the corporation, and of the Dublin County Council. The county borough of Dublin is exceptionally well provided for in its maternity services, which possibly are unequalled in any city. There has not been for some years a single instance in which midwifery cases have been attended by an untrained and unqualified person. The child welfare scheme provides for the systematic inspection and care of children in the pre-school period. The corporation employs a whole-time medical officer and a very large nursing staff. The treatments, apart from the advice at the clinics which are held at the various centres throughout the city, are arranged for in the appropriate specialized hospitals, as well as in the Carnegie Welfare Centre. The school medical service affords surgical and medical treatment as prescribed by the school medical officers by arrangement with the appropriate specialized hospitals, the children attending the hospital of their choice. The corporation's tuberculosis scheme provides a central dispensary, and, since the extension of the city boundary, a branch dispensary, a sanatorium for early cases, a hospital or home for advanced cases, and facilities at approved hospitals for the treatment of surgical tuberculosis. A site has been secured for the erection of a sanatorium or home to replace the Pigeon House Road Hospital and to allow of the transfer of patients from Rialto Hospital. It is proposed to provide accommodation for patients from county Dublin at an agreed charge per head.

Scotland

Childhood Infections in Glasgow

Since the usual death rates, expressed as a rate per million of the population, do not allow fallacies due to the falling birth rate, Dr. A. S. M. Macgregor, medical officer of health for Glasgow, has inserted in his annual report for 1934 a table showing the mortality from the commoner infections as a rate per million of children under the age of 10 at each quinquennial period since 1860. The rate for scarlet fever has fallen from 4,724 to 278; for diphtheria and croup, from 3,165 to 500; for whooping-cough, from 6,480 to 1,282; and for measles, from 3,663 to 1,069. In recent years the trend of the death rates of scarlet fever, diphtheria, and whooping-cough has been consistently downward, indicating that these infections are much less fatal than they were formerly, but the decline is relatively small and irregular in the case of measles, which maintains its prominence among the causes of mortality in childhood. In measles and whooping-cough a period of special susceptibility begins in infants at the sixth month, reaches a maximum at the eighth and ninth months, and thereafter falls—a phenomenon which may be related to some unexplained phase in the physiology of infant life. The outstanding epidemiological feature of 1933 in Glasgow was the almost complete absence of measles, but in 1934 the incidence of this infection was one of the highest recorded, 24,607 cases being registered—equivalent to a case rate per million of the population of 22,056 as compared with 856 for the previous year. A special investigation was made of the prophylactic and therapeutic use of convalescent serum. It was found that so small a dose as 5 c.cm. afforded complete protection in 80 per cent. of cases, the remaining children only having slight attacks. It appears that the best way of utilizing the serum is to produce attenuated attacks which confer lasting immunity rather than to aim at preventing the disease by conferring a passive immunity that lasts only a few weeks. Both measles and whooping-cough are apt to be accompanied or followed by bronchopneumonia and subsequently by recurring catarrh, fibrous changes in the lungs, or even more serious chronic conditions. In Glasgow many of these children are drafted to special schools. Prolonged open-air treatment has been tried without much benefit. Rickets and malnutrition increase the danger of respiratory infections, and it was observed that the marked reduction in the incidence of severe rickets, especially deformities of the chest, had appreciably lessened the risk of serious lung complications. The notable decline in the incidence in Glasgow of scarlet fever since 1932 is possibly attributable to the immunization of the population by the extensive epidemics of the three preceding years. Dr. Macgregor doubts whether immunization by artificial means could have brought about a more favourable result in checking the progress of scarlet fever in the city. He finds no indications that the disease is becoming more virulent.

Edinburgh University Medical Faculty

At the half-yearly meeting of the General Council of the University of Edinburgh on October 25th the president, Sir Thomas Holland, in reviewing the work of the university during the past year, referred particularly to the faculty of medicine. He said that in consequence of the limited accommodation in some of the laboratories and in the material for clinical teaching at the Royal Infirmary, they had been unable to accept more than half of the applicants who could show the preliminary educational standard required to undertake the medical training for a university degree. Turning to the subject of the medical curriculum, he said that they had long ago given up the idea of expecting a man to

be a general practitioner in science or even in engineering, but they still expected the average graduate in medicine to be safe as a general practitioner. Therefore, to meet the requirements that must follow from the development of the special accessory sciences they came up against the economic problem of meeting the cost of a course of training which would be long enough to cover the essential ground with sufficient detail and depth. At Edinburgh University they had had a committee at work for some time planning reforms. In developing the scientific subjects the composition of whole courses had undergone radical alterations, even though in the official syllabus the periods of time allotted to them remained the same. Thus the faculty had endeavoured, within the periods of study laid down by existing regulations, to keep the teaching of the school in line with the changing and developing needs of medical science and medical practice. To take the wider step of adding a year of residence to the minimum of five at present required would increase the cost of a medical degree to the student by 20 per cent. This might drive students of high mental standard into other professions.

Edinburgh Royal Infirmary Radiology Department

The board of managers of the Royal Infirmary of Edinburgh, at a meeting on October 21st, appointed Dr. Robert McWhirter radiologist to the infirmary in succession to Dr. A. E. Barclay, who has resigned only a few months after his appointment. Dr. McWhirter graduated M.B., Ch.B. at Glasgow University in 1927, and in 1932 became a Fellow of the Royal College of Surgeons of Edinburgh, later taking the diploma in medical radiology of Cambridge. He spent some time in studying radiology at the Mayo Clinic in America and also on the Continent, and afterwards became research scholar (British Empire Cancer Campaign) at the Holt Radium Institute, Manchester. He was for a time assistant radiologist in Manchester Royal Infirmary, and later in the Miller General Hospital, Greenwich, after which he was appointed chief assistant in the radiological department of St. Bartholomew's Hospital. For some months prior to his appointment at Edinburgh he had been assistant radiologist in the Edinburgh Royal Infirmary and acting radiologist in the absence of Dr. A. E. Barclay.

New Principal of Aberdeen University

The King has appointed, on the recommendation of the Secretary of State for Scotland, William Hamilton Fyfe, LL.D., to be principal of the University of Aberdeen, in succession to the Very Rev. Sir George Adam Smith, whose resignation took effect on October 31st. Dr. Hamilton Fyfe is at present principal and vice-chancellor of Queen's University, Kingston, Ontario.

England and Wales

"The Great Dr. Oliver" of Bath

A memorial tablet was unveiled last week in Bath to one of its eighteenth century physicians, William Oliver, a pioneer in the treatment of rheumatism, and the inventor of the famous "Bath Oliver" biscuit. The ceremony was performed by Dr. F. J. Poynton, consulting physician to University College Hospital, London, who first of all cleared up a confusion arising from the fact that there were two physicians named William Oliver associated with Bath, both of them Cornishmen, both descended from the ancient family of Trevarnoe in Sithney, and both Fellows of the Royal Society. The other William Oliver (1659–1716) was physician to the Red Squadron from 1693 to 1702, and afterwards physician to the hospitals at Chatham and Greenwich. From 1702 to 1709 he lived in London and Bath, though it is said to be doubtful whether he ever practised in the latter town, in the abbey church of which he lies buried. The association of the second William Oliver (1695–1764) with the spa is much more close. After practising at Plymouth he settled in Bath, according to Dr. Poynton, in 1728 (the *Dictionary of National Biography* says "about 1725"), and remained there for the rest of his life, carrying on a large and fashionable practice. His great task, however, was the establishment and promotion of the charity now known as the Royal Mineral Water Hospital, of which he was joint treasurer with Beau Nash, and one of the first physicians. From the time he was elected on the staff of the hospital until his retirement—a period of twenty years—hardly a day passed without a visit to the institution. The hospital recorded of him: "As a man he was distinguished by every manly virtue; as a philanthropist he rendered great service to the hospital; as a physician of forty years' standing in the city he was never excelled in activity or in skill. He was distinguished as the great Dr. Oliver." Oliver, said Dr. Poynton, was not an extensive writer, but he published in 1751 his *Practical Essay on the Use and Abuse of Warm Bathing in Gouty Cases* (he himself was afflicted with gout for many years before his death). He also ventured into the realm of poetry, and wrote an elegiac to his friend Ralph Thicknesse, who when playing the first violin for a composition of his own at a Bath concert fell dead at his feet. Another writing of Oliver's was a threepenny sketch of Beau Nash, his famous contemporary. At the Royal Mineral Water Hospital there is a picture by Hoare of Oliver and Jeremiah (or Jerry) Peirce, the first surgeon to the hospital, examining three patients. Dr. Poynton also mentioned the famous biscuit, an appropriate theme, since the occasion of the unveiling was during the conference of the Wine and Food Society at Bath. The story goes that before his death Oliver gave the receipt for the biscuit to his coachman Atkins, with £100 and a hundred sacks of the finest wheat flour. Dr. Poynton, on some historical authority, threw doubt on the legend, and also stated that he had examined the nineteen folio pages of Oliver's closely written will, and no mention of such a legacy had been found (though, to be sure, it might be an ante-mortem gift). The biscuits, at all events, were made in Green Street, Bath, on a receipt apparently handed on to five people. They are still manufactured in the city, and Dr. Poynton confessed that if he had the choice of being remembered by posterity as the discoverer of a new disease or as the originator of a biscuit he would choose the latter. Oliver lived on still, said Dr. Poynton, in his beloved hospital, known in his time as the "General Hospital of Bath," in which two hundred years of service to sufferers from rheumatic conditions had been wrought. He would have rejoiced to see Bath becoming a scientific centre for the study of all those conditions which, for the sake of brevity, thought not with strict accuracy, he grouped under the name of arthritis. Bath was fortunate, not only in its famous springs, but in its opportunities for serious and productive research. By research he meant much more than investigation with a microscope in a laboratory, he meant clinical study by the physician and surgeon supported by the bacteriologist and biochemist. Bath was also close to Bristol University, already famous for its work on rheumatism of the heart, and with ready access to the resources of London. The best memorial of Oliver and of other men like him who did so much to establish the reputation of Bath would be to make the spa a national centre for the advancement of knowledge of the causation and treatment of these grave afflictions.

Surgical Instrument Makers' Annual Dinner

The annual dinner of the Surgical Instrument Manufacturers' Association was held at the Holborn Restaurant on October 25th, under the chairmanship of Mr. H. Guy Drew (Down Bros., Ltd.). In proposing the health of the hosts Professor G. Grey Turner spoke of his early fascination for the making of instruments of precision; as a boy he had spent happy hours in the workshop of a maker of ships' chronometers. When it came to a question of surgical instruments of quality he set great store on some old ones; for the last thirty years or so he had used the same instrument for one important opera-

tion, and the point of that instrument was just as good to-day as when it was first turned out. More than forty years ago he attended a class on surgical instruments, a class conducted by Mr. Down, and then usually held just before the examination for the M.R.C.S. Pride in the craftsmanship of the surgical instrument maker was something to be cherished in every possible way, and he rejoiced in what the Manufacturers' Association was doing to protect the craft from unworthy competition and any deteriorating influence. Many instruments from other parts of the world were extremely good. Some of the old instruments made by French firms were masterpieces in their line. And as a further consideration, lest the instrument maker of to-day should think more highly of himself than he ought, examples of the art of the Roman surgical instrument maker and jeweller, which were beautiful and in some cases startlingly "modern," had been excavated. Professor Grey Turner added that surgeons were indebted to the instrument makers for allowing them to visit their workshops and see exactly what was being done. It would be a good idea if representatives of the instrument makers could visit the operating theatres and see how their instruments were being used, also if some of those who were devoting themselves to instrument-making were to qualify in medicine and surgery. He went on to urge the importance of greater care being taken of the instruments before and after use, especially in the way they were sterilized. He also advised the association to introduce systems of extra education for juniors among the craftsmen in matters of outside knowledge. Mr. Guy Drew, in reply, said that Professor Grey Turner would be glad to know that he had been voicing the views of the association itself when he urged the need for more advanced education. The surgical instrument maker of the future would be a more highly trained person than in the past. An institute was being founded which would provide a course of training that was intended to cover all the basic fields of knowledge in which the manufacturer and the surgeon came into contact. The industry was not resting on its oars, but was determined to make progress. He added that nobody was admitted to membership of the association who did not sign an undertaking that he would not in any way pretend to the possession of medical knowledge, and that he would always work in collaboration with the medical profession. Dr. A. N. Gardner proposed "The Guests," to which Sir Frederick Hobday and Dr. Charles Hill, Deputy Medical Secretary of the British Medical Association, responded. The latter reminded the company that there was in process of creation by the British Medical Association a national register of medical auxiliaries, and he hoped the surgical instrument manufacturers would join with other branches, without whose co-operation the medical profession could not continue to give adequate service to the community. The only other toast was "The Ladies," proposed by Mr. W. T. R. Beckett and responded to by Miss Hotchkin. The company numbered nearly two hundred.

Nutrition of School Children in Gloucestershire

In his annual report to the Gloucestershire Education Committee for 1934 the school medical officer, Dr. J. Middleton Martin, states that ever since 1908 records have been kept in his county of the state of nutrition of school children under a similar four-heading classification to that recommended by the Board of Education in its recent administrative memorandum. A review of not far short of 300,000 examinations in one county, undertaken over a period which included the years of the war, is therefore of considerable interest, and Dr. Martin appends to his report a series of graphs indicating for each year the percentages of children above and below the average for entrants, intermediates, and leavers, and for males and females separately in each class. The general lesson to be drawn is that the nutrition of the child population of Gloucestershire had a tendency to improve from the time when school medical inspection began up to about the end of the war. For a few years thereafter there was a tendency for it to depreciate, but during the past twelve years there has been a fairly regular improvement. The cause for the downward track of the curves for the years immediately following the war was no doubt scarcity of money and difficulty in obtaining large quantities of good food. Gradually environmental factors, including housing conditions, have improved, and for some years now the "above average" curve has been rising for both sexes in each of the three age classes.

Manchester Joint Hospital Board

The scheme for establishing in Manchester a Joint Hospital Advisory Board, to which reference was made in the *Journal* of August 24th (p. 353) and September 14th (pp. 508 and 515) has now received final approval by the council of the University of Manchester. The representatives appointed by the university are the chairman of the council (Sir Christopher Needham), the vice-chancellor (Professor J. S. B. Stopford), and Professors Albert Ramsbottom, W. Fletcher Shaw, and E. D. Telford. Sir Christopher Needham has been appointed chairman of the Board, and Councillor R. G. Edwards (chairman of the Manchester Public Health Committee) deputy chairman. Its first meeting was held in the Town Hall on October 28th.

Overcrowding and the New Housing Act

Local housing authorities are already giving close attention to the new functions entrusted to them by the Housing Act which passed into law this summer. To assist them further the Minister of Health has issued a set of memoranda outlining the scope and purpose of the Act, and explaining in some detail the nature of the new duties and the best way of performing them. These memoranda will be of interest to everyone concerned in the direct and rapid abatement of bad housing conditions. Their main subject-matter is directed to assisting local authorities in the planning and early initiation of the house-to-house survey on which positive ascertainment of the total need for action will be based, as well as in other important steps which are necessary to deal with the evil of overcrowding. Meanwhile proposals are already being submitted to the Minister for rehousing schemes to abate overcrowding, which, even ahead of their more detailed survey, the local authorities know to exist from their general knowledge of their districts. Activity by some authorities under the Housing Act, 1935, has, in short, already started, and actual building operations, the Minister has already stated, will not prejudice any claim to subsidy which authorities may wish to submit at a later stage, if subsidy would otherwise have been payable. There is abundant evidence that the local authorities appreciate the necessity of avoiding any diminution in the flow of clearance and rehousing work under the five-year slum clearance campaign which is now in active progress, and it is realized that the new campaign against the overcrowding factor will not be allowed to retard the continuance of activity against the slum. Five separate memoranda have been issued by H.M. Stationery Office, and together they cover all the principal objects of the Act. Their titles are as follows: (*a*) "General Memorandum" (4d.); (*b*) "The Prevention and Abatement of Overcrowding" (6d.); (*c*) "The Redevelopment of Overcrowded Areas" (2d.); (*d*) "Financial Provisions" (2d.); (*e*) "Consolidation of Housing Contributions and Accounts" (4d.).

The Minister of Health on Preventive Medicine

Sir Kingsley Wood, Minister of Health, visited Charing Cross Hospital Medical School on October 25th and distributed the prizes and certificates awarded during the past session. In the course of his address Sir Kingsley expressed the hope that many of the students would decide eventually to work for the diploma in public health and take medical posts in the public health service. The best brains of the medical profession were needed in the public health service. Great things had been achieved in the preservation of infant life. In 1934 the number of deaths of infants under 1 year of age was 35,017, or about 2,000 fewer than in 1933. The mortality from tuberculosis showed a diminution year by year, and

the death rates for 1934 were the lowest on record. Within the past ten years the mortality from non-pulmonary tuberculosis had been halved. The problem of maternal mortality, which still gave cause for concern, was being studied and attacked. Every medical practitioner should be a missionary of preventive medicine. In America the big life insurance companies found it to their interest to provide free periodical medical examinations for their policy-holders. One could imagine the doctor of the future as having little to do with the treatment of declared disease. He would find all his time employed in keeping the population well.

Reports of Societies

RECOGNITION OF CHRONIC MYOCARDIAL DISEASE

At the meeting of the Section of Medicine of the Royal Society of Medicine on October 22nd, with Sir CHARLTON BRISCOE in the chair, the subject of discussion was the recognition of chronic myocardial disease.

Main Causes of Chronic Heart Disease

Dr. ARNOLD STOTT, after referring to the statement in the recently published Annual Report of the Chief Medical Officer of the Ministry of Health that cardiovascular disease accounted for 282 out of every 1,000 deaths in 1934, said that the main causes of chronic heart disease were well known and, as a rule, in a given case easily determined. He gave the following table to illustrate their frequency:

Rheumatic ...	32 per cent.	Arteriosclerotic ...	25 per cent.
Syphilitic ...	4 ,, ,,	Thyrotoxic ...	3 ,, ,,
Hypertensive ...	30 ,, ,,	Miscellaneous ...	6 ,, ,,

Rheumatic heart disease was practically the only cause of acquired heart disease under the age of 30. Clinically it presented itself as a chronic valvular disease, especially as a narrowing of the mitral valve. In the great majority of syphilitic cases the heart disease was secondary to a syphilitic aortitis, which spread to the aortic valve, rendering it incompetent. Hypertensive heart disease was a very common and important form of chronic heart disease, especially in the later years of life—an awkward name, but there was no better one for the myocardial disease which resulted from persistent hypertension. In 95 per cent. of the cases essential hypertension or hyperpiesia was the cause; in about 5 per cent. chronic nephritis. Only of recent years had the importance of hypertension as a cause of heart disease been recognized. Arteriosclerotic heart disease was due to arteriosclerosis in the coronary system, and recognized clinically, on the appearance of angina pectoris or of myocardial infarction, from coronary thrombosis. Thyrotoxic heart disease was clinically characterized by palpitation and dyspnoea. The eye signs and also the enlargement of the thyroid might be very slight.

The myocardial involvement in these common types did not vary very much in its manifestations. The most important symptom was dyspnoea, appearing first on exertion previously undertaken without respiratory distress. This form of cardiac dyspnoea was the first evidence of encroachment upon the heart's reserves. The different type of dyspnoea which went by the name of cardiac asthma was a sure sign of severe myocardial disease. It occurred in paroxysms, usually at night during sleep. Similarly, Cheyne-Stokes respiration was often associated with grave myocardial disease in its later stages. The only other important symptom was anginal pain. Many cases of mild angina, which was the commonest type, were overlooked and labelled with the patient's own diagnosis of indigestion. Perhaps the most important physical sign was enlargement of the heart. He gave reasons for disregarding the traditional view that cardiac enlargement was simply and solely a response to increased work. With regard to estimation of the size of the heart, the best and simplest clinical method was the position of the apex beat. His personal conviction was that percussion was a relatively crude method and seldom of use. Radiology was a great help. Cardiac murmurs which fell during diastole were of much greater significance than those which were systolic in time. Diastolic murmurs enabled the diagnosis of valvular defects to be confidently made. Pulsus alternans, readily detected by the sphygmomanometer, but rarely appreciable by palpating the radial pulse, was another sign of grave myocardial damage, but both it and gallop rhythm were usually accompanied by other clear evidence. Other evidences were persistent auricular fibrillation, auricular flutter, and complete heart-block; but, on the other hand, paroxysms of tachycardia of any variety, especially if originating early in life, were functional disturbances of the heart not necessarily resulting from myocardial damage. Finally, he discussed the place of the electrocardiogram in the recognition of myocardial disease. It had its great value, but seldom did more than give confirmatory evidence of myocardial disease which had already been discovered by simple clinical methods.

Main Diagnostic Difficulties

Dr. EVAN BEDFORD said that perhaps the most important aetiological variety of chronic myocardial disease was the arteriosclerotic type—that is, obliterative coronary atheroma—which reduced the blood supply of the myocardium. The common error, in his experience, was not so much to overlook a myocardial lesion as to attribute to myocardial disease symptoms which arose outside the heart. Perhaps the greatest difficulty in diagnosis arose in cases of dyspnoea without obvious physical signs. He mentioned the following causes of dyspnoea in which myocardial disease might be simulated: emphysema, various forms of pulmonary fibrosis, carcinoma of a bronchus, diffuse carcinomatosis of the lung, mediastinal tumours, and obliterative arteritis of the pulmonary arteries. Another type of dyspnoea which was frequently attributed to the heart was a nervous disturbance of respiration in which there was a peculiar sensation of air-hunger. Lastly, he mentioned obesity. In every case of dyspnoea without obvious physical signs he stressed the importance of a routine *x*-ray examination. Dr. Bedford next passed in review certain painful conditions simulating myocardial disease, such as left mammary pain, a common symptom in nervous subjects, aneurysm, mediastinal tumours, and substernal goitre. A rare cause of pain which might very closely simulate angina was para-oesophageal hernia.

Syncope was a relatively rare symptom of myocardial disease. Ordinary fainting in young subjects was due to vasomotor disturbance and not to the heart. Faints which began in middle life or later often indicated serious vascular disease, cerebral rather than cardiac. Tachycardia was not specially characteristic of chronic myocardial disease unless congestive heart failure was present. Oedema was only evidence of congestive heart failure when it was associated with other manifestations, such as engorgement of the cervical veins. A systolic murmur was not by itself evidence of myocardial disease, and had practically no diagnostic value, though it might be useful in drawing attention to the heart. Myocardial disease ought never, in the speaker's opinion, to be diagnosed from modifications in the heart sounds alone, without other signs. A possible exception was true gallop rhythm, but this was usually associated with enlargement of the heart or hypertension. Such terms as "tired heart," "flabby heart," and "weak heart" referred to no recognizable pathological entity, and should be avoided in diagnosis. With regard to the electrocardiogram, its great value was that it provided objective evidence of myocardial disease. With a nervous or hysterical patient it might be extremely difficult to assess how far the symptoms were purely nervous, and in such cases objective evidence was of great value. But a normal electrocardiogram did not exclude the presence of myocardial disease; it was merely one point against such a diagnosis.

Fatty Infiltration

Dr. A. G. GIBSON said that when a heart was examined after death in order to explain the symptoms and signs observed during life the observer frequently found himself curiously at fault. When it came to a question of trying to define anatomically what was meant by cardiac failure, and why particular hearts were defeated in the classical signs of failure while others apparently as grossly diseased had survived to succumb under the conditions of an accident or intercurrent disease, one was made to pause and wonder. The grossest mechanical defects such as valvular abnormalities and interferences with the conducting system could be compensated in some subjects. In keeping a careful watch on routine post-mortems he had been on the look out for any anatomical points which might help to elucidate the problem, and he had to confess that in respect of the cardiac failure of hyperpiesis, thyrotoxicosis, and of old rheumatic hearts long after the period of active rheumatism had passed there was no solution. There was, however, a lesion which was easily recognizable occurring with moderate frequency which would appear to be a factor in restricting cardiac activity—namely, the fatty infiltration of the older anatomists as opposed to fatty degeneration. Fatty degeneration was seen in death from diphtheria and pernicious and other anaemias, in which it would appear to be a factor in cardiac failure. Fatty infiltration, on the other hand, might be found in minor degrees from early middle life to extreme old age, and was not confined to the obese, though more frequent in them. Fat appeared to invade the muscle from the epicardium, destroying by replacement and pressure large portions of the cardiac muscle, especially of the right ventricle, whose wall might be almost wholly replaced by fat. In 3,000 routine post-mortem examinations, done mainly at the Radcliffe Infirmary, Oxford, the lesion of fatty infiltration had been encountered in 114. A study of the symptoms and signs showing these changes might reveal some points which would lead to a better understanding of cardiac failure and might decide whether their clinical grandfathers were right in attributing to fatty changes deaths not otherwise explained. The clinical conditions which these 114 persons had shown during life might be set out as follows:

Diseases in which fatty infiltration must be regarded as incidental, as, for example, gastric or duodenal ulcer, renal disease ...	49 cases
Cases in which death was sudden and unexpected; five of them under anaesthesia in which no other cause of death could be discovered	15 ,,
Unexplained death associated with operation, following after an interval of from two hours to nineteen days, and not explained by surgical shock or operative conditions ...	18 ,,
Death associated with accident, including such cases as falling from a ladder in which the fall might have been caused by sudden faintness	22 ,,
Cases presenting cardiac symptoms	10 ,,

General Discussion

Dr. PARSONS SMITH thought the general idea was now rather to discredit the back-pressure theory of heart failure and to emphasize diminished output as the cause. Recent work, however, suggested that the output of a failing heart was very little diminished, except in the advanced stages. If the output of the heart was only slightly diminished it was advisable to consider whether in these cases there was some element of back pressure. It seemed reasonable to suppose that congestion of the lungs might have some part in the aetiology of dyspnoea, and that the so-called chemical cause of heart failure—namely, a deficiency in the aerated blood to the higher centres—might not be the only factor.

Dr. F. E. LOEWY (Vienna) said that in subjects with dyspnoea, when only the heart was at fault, the arterial blood remained oxygenated as normally and its colour was normal. When emphysema was associated with myocardial disease the blood would be found darker. He had learned about this test in Vienna, where it was used for the exclusion of emphysema as a cause of dyspnoea. Dr. KENNETH HARRIS, referring to Dr. Stott's remark that patients with angina frequently thought they had indigestion, said that his experience was the reverse. For every patient who came with the idea that he had indigestion when the condition was really angina twenty came in the belief that they were suffering from angina when it was no more than indigestion. Sir CHARLTON BRISCOE said that there were two symptoms which he used to think of as having importance in connexion with this subject—namely, unexpected fainting in elderly persons, as when taking a bath, and an appearance of sallowness or even yellowness. These suggested a serious prognosis. He also referred to the position of the diaphragm in the chest as possibly having a direct inhibitory effect on the tone. If the diaphragm was abnormally up or down there was an excessive movement of the chest. Dr. K. SHIRLEY SMITH referred to the new appearance of symptoms in late life, suggestive of a fault in the circulation; the symptoms were giddiness, insomnia, dyspeptic disturbance, these being suggestive of cardiovascular breakdown. Dr. HUGH STANNUS said that he saw large numbers of medical certificates relating to Government officials who were absent from duty and said to be suffering from influenza and cardiac debility or myocarditis. What was the actual condition in such cases? Was it a form of anxiety neurosis?

In reply, Dr. STOTT agreed with the president that patients with coronary heart disease were very apt to turn sallow. The explanation was difficult; it had no relation to anaemia or vaso-constriction. Dr. GIBSON said that there seemed to be some connexion between gallstones and the fatty infiltration to which he had drawn attention. It might be that a toxin produced both.

TWENTY-FIVE YEARS' PROGRESS IN ELECTROTHERAPY

At the first meeting of the session of the Section of Physical Medicine of the Royal Society of Medicine on October 25th, Dr. C. B. HEALD, by way of presidential address, reviewed the progress of electrotherapy during the present reign, and also described certain work on the induction of artificial fever. The address, which was accompanied by some highly skilful experiments, is the subject of an annotation at page 848.

Dr. Heald began by comparing the equipment of the electrical department of a general hospital in 1910 with the equipment of the present day. In the earlier year the installation consisted probably of one or two galvanic cell collectors, one or two faradic coils, a pantostat, and possibly a high-frequency coil. In contrast he exhibited the long list of apparatus now in the department of physical medicine at the Royal Free Hospital. In that department the number of treatments in a year had risen from about 10,000 in 1910 to almost 80,000 in 1934, and the list of cases showed how greatly widened was the field of physical medicine.

Direct Current and Faradic and Allied Currents

In 1910 the galvanic current was chiefly employed for ionization, interrupted stimulation of paralysed muscle, and for its destructive effects on naevi and warts. But E. R. Morton in that year drew attention to the cataphoretic effects of direct current, and generally to its widening usefulness. Its value as a routine in the early treatment of all injuries was at present beginning to be recognized, notwithstanding the adverse findings of the British Medical Association Committee on Fractures. Another development which Morton foresaw was the introduction of complex chemical substances by ionization. Recently histamine ionization had come into prominence, and Dr. Heald was definitely of opinion that its clinical results in selected cases of rheumatism (particularly those associated with the menopause) were better and more permanent than those following the hypodermic injection of the drug. He showed some Dufaycolor photographs of the skin after treatment with histamine and adrenaline ionization respectively, and said that, when the knowledge of these ionizations was considered together with the recent work of Dale and his colleagues on the secretion of acetylcholine by nerves after appro-

priate electrical stimulation, it was clear that the electricity and chemistry of the nervous system were being linked together.

As for faradic current, improvements and changes in the faradic coil were beginning about 1910, in which year Bergonié presented his now world-famous apparatus. In dealing with recent work, Dr. Heald drew attention to the modification introduced by Sir Morton Smart, consisting essentially of a mercury contact breaker designed to give in the patient's circuit strong but painless muscular contraction. The introduction of rectifiers and valves as a result of wireless practice enabled modifications to be made in the alternating current to give a smooth form of faradic effect. After showing a number of tracings obtained with different apparatus, Dr. Heald expressed the hope that by utilizing the present new and exact methods of ascertaining current form an increased knowledge of muscular response to stimulation might come about.

Heat and Electro-pyrexia

He next turned to the induction of artificial fever, a subject in which he had long been interested. In 1910 the electrical department of the Royal Free Hospital included a radiant heat cradle, not different from those seen to-day in many hospitals. In recent years a better knowledge of the electro-magnetic scale had aroused interest in infra-red radiation, and there had been a strong tendency to replace treatments in which light and heat were combined by treatment with materials radiating heat unaccompanied by visible light. In consequence electrical blankets and pads, some of which he exhibited, had made their appearance. His own interest in the clinical effects of radiant heat baths had been reawakened on testing under clinical conditions for the London County Council a radiant heat shock cradle. This led to experiments with different types of apparatus, including new and old radiant heat baths, the infra-red tunnel of the British Red Cross Society, and an electric blanket; and later the investigations were extended to short-wave apparatus of two types, and to the so-called inductotherm and Wilde's pyretic baths. Neymann of Chicago, in lecturing not long ago to the Royal Society of Medicine on hyperpyrexial treatments, expressed the view that such treatment could be obtained satisfactorily by ordinary diathermy, by short-wave diathermy, or by inductothermy, but that the last-named gave somewhat easier, safer, and better clinical results than the other two. Dr. Heald concurred in this, and said that he thought it would repay electrotherapists to watch the clinical applications and results of inductothermy. It was, however, clear that it was quite possible with heat cradles little different from the types which had been in existence for many years, or with the latest type of short-wave apparatus, to influence the heat-regulating mechanism of the body. He exhibited a large number of graphs to describe his observations with pyrexia-producing apparatus, but here we can only set out his conclusions:

1. True hyperpyrexia treatments are a great strain on the fortitude, condition, and constitution of the patient.
2. These treatments should only be given for ailments in which the outlook is either hopeless or chronically distressing.
3. If, however, it can be established that in cases of acute gonorrhoea one full treatment is effective, some modification of the preceding opinion should be made in this case.
4. Much clinical benefit can be secured by pyrexial treatments at temperatures of 101° to 103°, without recourse to higher temperatures and without distress to the patient.
5. Of all the apparatus tested the inductotherm yielded the best results. The efficiency of this machine needs improvement by the incorporation of a filament voltmeter and variable control, otherwise it may not be as efficient as either the electric blanket or Wilde's bath.
6. Pyrexial treatments, where the temperature is raised above 101°, should not be administered other than by a qualified practitioner working with a suitably trained nurse.

Light Therapy

Finally Dr. Heald dealt with ultra-violet light and its modifications. Long before the period which he had taken for review the Finsen light was installed at the London Hospital; by 1910 the Finsen-Reyn modification had been introduced, and this held the field until quite recently, when Dr. Lomholt introduced further changes. The essential differences between the new Finsen-Lomholt and the Finsen-Reyn were the incorporation of coloured filters composed of solutions of copper sulphate and cobalt sulphate, so that a mixture of rays was obtained containing only about 25 per cent. of non-ultra-violet light without weakening the ultra-violet emission by more than 20 per cent., but with this mixture of rays approximately three times as much ultra-violet radiation might be given without causing pain as could have been given without the colour filters. The therapeutic effect of treatment had also been improved by using nickel-cored carbons. Dr. Heald thought that this apparatus marked a great advance in lupus treatment, and that it should certainly be tried in cases where the glandular system was chronically swollen and inflamed, quite apart from tuberculous inflammation.

After touching on other recent advances in the therapeutic field of the ultra-violet, he spoke in particular of the local applications of the Kromayer lamp. This water-cooled mercury vapour lamp, originally designed for the treatment of lupus, had now a wide field of utility in abdominal conditions, such as dysmenorrhoea, post-operative pain, and even cholecystitis. Dr. Heald carried out a successful demonstration with a Kromayer lamp, showing how, with a filter which cut off light but permitted the infra-red to pass, the beam, after it had passed through 2 cm. of meat representing tissue, could activate a photo-electric cell especially sensitive to infra-red. Seeing that ultra-violet light was cut off by both the filter and the meat, this lamp was proved to have considerable energy, probably in the infra-red range at 11,000 Angström units, capable of great penetration, thereby probably accounting for the curious selective clinical results obtainable with this lamp on lymphatic tissues.

TROPICAL DISEASE ON SMALL ISLANDS

At the Royal Society of Tropical Medicine and Hygiene, at Manson House on October 17th, Sir ARTHUR BAGSHAWE, in his presidential address, dealt with some features of the distribution of malaria and other tropical diseases which require an invertebrate host, especially in small tropical islands.

Sir Arthur Bagshawe said that since Ross's discovery in 1897 of its mode of transmission malaria had made a fresh and, in some instances, fleeting appearance in the islands of Barbados in the West Indies and of Grand Comoro and Aldabra in the Indian Ocean. Malaria appeared in Barbados for the first time in recent history in 1927, and rapidly spread over most of the island. *Anopheles albimanus*, a well-known malarial host, was found to be breeding freely in many places; it was believed to have been introduced in trading schooners, as was foreshadowed many years ago by Hutson. Anti-larval measures were initiated and carried out as far as was practicable, but much less thoroughly than the experts believed to be essential; nevertheless in two years the epidemic had subsided, and in 1930 not a single case contracted in the island was reported. About the same time the adult anopheles disappeared and no more larvae could be traced; the mosquito had not found the breeding conditions congenial and was believed to have died out. It seemed, however, that this was not the first appearance of malaria in Barbados. Hillary, writing in the year 1766, described the disease as he saw it there, and compared it with malaria as known in England. Hutson suggested that malaria disappeared with the wood which formerly covered the island. In other instances the anopheles whose introduction was responsible for the spread of the disease to fresh areas was *A. gambiae*. This mosquito, an Old World species, was such a successful colonizer that it had crossed the Atlantic and had established itself in Brazil at Port Natal. Both steamers and aircraft made the crossing to this port from Dakar, 2,000 miles away, and one of these means of transport must have been used. The epidemic resulting at Natal was unusually severe. The species was also found 180 kilometres away. Its spread in South America would be

conditioned by climate, for it stood drought badly. Clearly there was no limit to the possible excursions of this species, which was a very efficient host for the malaria parasite.

One of the diseases introduced to the West Indies with slaves from Africa was rectal schistosomiasis: finding a suitable intermediary host in a species of Planorbis, it became established in several islands, while the vesical form, which must have come in at the same time, died out for want of a suitable host. Cameron had studied rectal schistosomiasis in St. Kitts, and had shown that it was shared with the islanders by monkeys originally from Africa, which lived wild in the hills. He found five out of seven monkeys to harbour the characteristic lateral-spined eggs. This discovery was made in 1927, and it seemed strange that up to the present there were no records of the examination of monkeys in Africa and other parts where the infection is found.

Guinea-worm was another parasite introduced from Africa to the West Indies; the infection died out with the cessation of the slave trade from lack of the crustacean which acted as host in Asia and Africa. However, even where the crustacean was present and the worm was frequently imported in the tissues of infected persons the disease did not always become endemic. According to Brug, in the Dutch East Indies, though guinea-worm-infected Indians and Arabs had been coming in for centuries, the indigenous disease was very rare. He showed, by experiment, that guinea-worm was readily transmissible in that region by a species of cyclops, and attributed its absence to the preference shown by the inhabitants of the Archipelago for running water for drinking, cyclops, the invertebrate which would serve as host, being restricted to stagnant pools.

CORONARY THROMBOSIS

At a meeting of the Liverpool Medical Institution, held on October 17th, with the President, Dr. C. O. STALLYBRASS, in the chair, a discussion on coronary thrombosis was opened by Dr. E. WYN JONES, Dr. H. WALLACE JONES, Dr. E. NOBLE CHAMBERLAIN, and Professor J. HENRY DIBLE with a series of short communications.

Dr. WYN JONES described the coronary circulation as demonstrated by the injection method with a radiologically opaque injection mass. An outline of the technique was given, and a number of plates were shown illustrating the normal distribution and some of the common anatomical variations of the coronary arteries. The blood supply to the valves and the neuro-muscular tissue was briefly considered. Emphasis was laid on the age changes in the coronary vessels and especially on the development of anastomotic channels with increasing age. Thereafter, the changes due to coronary sclerosis and thrombosis were described, and plates from a number of these cases were shown. Dr. Wyn Jones concluded by suggesting several factors which might explain the varying manifestations of coronary thrombosis.

Dr. WALLACE JONES outlined the clinical aspects of coronary thrombosis. He said that although coronary thrombosis as a cause of sudden death had been known to pathologists for many years, only during the last few years had it been realized that the majority of patients recover from the attack, and that those who do pass through a characteristic syndrome. The typical clinical features of the condition were then described. They were divided into two stages: (1) the initial anginal attack, and (2) the evidence of myocardial infarction and damage. The distribution of the anginal pain was indicated, and the features of extreme pain, vomiting, air swallowing, fall in blood pressure, and distant heart sounds were described. This was contrasted with the symptoms of angina of effort, and the points of difference stressed. The clinical signs which appear after the initial attack were then described, including pericardial friction, congestive failure, pyrexia, leucocytosis, emboli, and abnormal rhythms. The speaker concluded by describing some atypical forms of the condition, including the painless, ingravescent, and abdominal types.

Dr. NOBLE CHAMBERLAIN dealt with the electrocardiographic changes and treatment of coronary thrombosis. After describing the typical changes of the Pardee curve and pointing out that this represented the stage of myocardial necrosis, he showed electrocardiograms indicating the transition from ST deviation to the development of the negative T wave, having a sharp-pointed character. He emphasized that whatever the change in the electrocardiogram, one of the most important points was its frequent variation within a comparatively short period of time. Dr. Chamberlain also mentioned the possibility of infarction in the intraventricular septum causing heart-block, and cited an example of this. In describing the treatment the speaker emphasized that our knowledge of the pathology and clinical course of coronary thrombosis was still incomplete, and that treatment was therefore not on a fully satisfactory basis. Morphine should be used in sufficient doses to relieve the pain, which often meant giving as much as 1 grain within two hours of the onset of the attack. The usual treatment of shock was indicated in those cases where collapse was a notable feature, and if the fall of blood pressure was extreme adrenaline or ephedrine might be helpful. With regard to the use of digitalis, Dr. Chamberlain said he felt that this should be reserved for those cases where definite signs of congestive heart failure developed a few days after the attack of coronary thrombosis, and also for cases which were complicated by auricular fibrillation. He thought that it was inadvisable to use digitalis except in these selected cases on account of the more forceful contractions of the heart which it might cause, and the corresponding risk of detachment of emboli and cardiac rupture. Oxygen was of value in those cases where cyanosis and dyspnoea were prominent symptoms. It was most advantageous if an oxygen tent could be used, but, short of this, administration through a nasal catheter was of some benefit. In the subsequent treatment of coronary infarction the most important point was the restriction of the patient from any undue mental or physical exertion, the treatment of angina of effort which usually followed, and the strict treatment by rest in cases where recurrent cardiac pain occurred without effort. The use of quinidine as a prophylactic against ventricular fibrillation and ventricular tachycardia was mentioned.

Professor J. HENRY DIBLE, in discussing the pathology of coronary thrombosis, said that this was the culminating act in the long-drawn-out drama of coronary atheroma, an arterial disease which in some individuals might affect the coronary arteries to a much greater extent than the other arteries of the body. The histological changes in atheroma of these vessels were described and the results of advancing ischaemia in the cardiac muscle were considered. By the time the disease had advanced to the stage at which thrombosis occurred the chronic ischaemia had as a rule produced a good deal of focal destruction of the myocardium, which had a high oxygen consumption, and when actively contracting demanded between a litre and a litre and a half of blood per minute. The occurrence of thrombosis was followed by a cardiac infarct, and a new set of conditions arose out of this. The process of organization began immediately, while pericarditis occurred on the surface and mural thrombi frequently in the interior of the ventricles. Both systemic and pulmonary emboli were possible consequences of the latter, while autolytic softening of the infarct might result in cardiac rupture, an event which the speaker considered to be rare. The changes involved in the organization of the infarct were discussed and specimens shown to illustrate the stages in this process. Finally, when completed, it left a fibrous scar in the ventricular wall which might become the site of a cardiac aneurysm.

Discussion

The PRESIDENT, in opening the discussion, said that whilst much information had been given on how to diagnose coronary thrombosis he would add a word on how not to diagnose it: sudden death in a person not known to have suffered from coronary disease did not justify a diagnosis of death from coronary thrombosis.

Professor JOHN HAY stressed the importance of those atypical manifestations of coronary thrombosis which were so easily misinterpreted. The importance of a correct diagnosis in such patients lay in the fact that prolonged treatment was advisable after even a minimal thrombosis. The symptomatology in atypical cases differed from the classical syndrome either quantitatively or qualitatively. In other words, the patient might either present the usual symptoms of pain and collapse in a mild degree or the pain might be absent or negligible, and some other feature might dominate the picture. For example, there might be an inexplicable sense of apprehension, marked dyspnoea, congestive cardiac failure, the onset of a pathological rhythm, and, of course, that type in which the symptoms pointed to some acute and serious abdominal lesion. The percentage of patients suffering from coronary thrombosis in whom pain was absent was far higher than was at present appreciated, and this led in many instances to an error in diagnosis and a failure to assess correctly the gravity of the illness. In coronary thrombosis the prognosis either immediate or remote was admittedly one of great difficulty. Among other unsatisfactory symptoms after the first week or two was the presence of a quickened respiratory rate or an increased liability to dyspnoea when the patient was at rest. The advent of Cheyne-Stokes respiration was of even graver import. Again, a frank drop in the pulse pressure was ominous. The question of the value of digitalis had been raised. Professor Hay did not consider it advisable as a routine method of treatment. In his view digitalis was indicated in the presence of auricular fibrillation or when any signs of congestive failure showed themselves. Restlessness and mental irritability, when present, were benefited by the exhibition of ammonium bromide and theominal. Abdominal distension was a serious complication by reason of its interference with the free movement of the diaphragm and the consequent embarrassment of the heart. Failure to relieve this complaint might jeopardize the issue.

Dr. I. HARRIS said that in a great number of cases the so-called coronary thromboses are not coronary thromboses at all; but diagnosis was difficult. It was risky to rely on electrocardiographic evidence alone, because there were numerous instances of electrocardiograms being issued that suggested coronary thrombosis in cases in which no clinical evidence of the condition could be found. Dr. Harris pointed out that coronary thrombosis was a frequent complication of high blood pressure. In high blood pressure the pressure in the coronary circulation ought to be enormously increased, and yet we know that the factor which favours thrombosis is a slow and feeble circulation. This was a significant fact. The speaker emphasized the importance of systolic pressure readings in those cases which he considered one of the most important signs of coronary thrombosis. The pressure was, of course, low after the attack, and a rise of pressure during convalescence was a favourable sign in the prognosis. On the other hand, at any period after coronary thrombosis a fall of pressure was always an indication for taking prompt action by putting the patient to bed and possibly administering cardiac tonics. The problem of digitalis in these cases was a difficult one. Digitalis, of course, might strain the heart muscle, but on the other hand it was essential to improve the coronary circulation. Dr. Harris said that he found strophanthin given hypodermically much more useful than digitalis in these cases. After the acute stage of coronary thrombosis was over graduated exercise was of benefit in suitable cases.

Dr. F. B. JULIAN asked whether there was any relation between digitalization of cases of auricular fibrillation of the senile type and the production of coronary thrombosis. As digitalis was likely to cause a raising of pressure in the coronary arteries and a raised pressure was one of the factors in the production of coronary thrombosis it seemed at least possible that this relation existed. If so, it called for caution in the use of digitalis in this type of fibrillation.

Dr. R. C. WEBSTER asked whether syphilis could be excluded as an important aetiological factor. Professor Dible had shown that coronary thrombosis followed on gradual obliteration of the lumen of the artery. Syphilis tended to cause endarteritis obliterans. He also asked whether the clinical syndrome ascribed to coronary thrombosis might not occur in cases of defective coronary circulation but in the absence of actual thrombosis. He quoted a case suggestive of this.

TENDENCIES IN MEDICINE

At the October meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, the president, Dr. V. M. SYNGE, read his inaugural address on "Tendencies in Present-day Medicine."

He said that the progress of medicine in the past was more accurately represented by a series of waves than by a straight line. No one could tell whether present-day progress was nearing its crest or not, but the curve of progress was still rising. During the past few decades pathology, bacteriology, biochemistry, and psychotherapy had in turn been to the fore in medical progress. Here could be noted a tendency to move from the more concrete to the less concrete. The mental equipment of the doctor consisted of four factors: (*a*) inherited and acquired mentality—disciplined thinking power, common sense, free mental judgement; (*b*) technical knowledge acquired as a medical student; (*c*) knowledge gained by practical experience; (*d*) absorption of new medical methods and discoveries. At every period in his life the doctor's capacity for diagnosis, treatment, and prognosis might be expressed by $a + b + c + d$. As age advanced *b* diminished, *c* increased, *a* was constant, *d* varied greatly and depended in some measure upon *a*. Good secondary education was necessary for maintaining the value of *a*; *b* was tending to become of less practical value as the medical curriculum lagged more and more behind modern medical knowledge. This was likely to continue as long as the dominant idea in the alteration of medical education was to add to the curriculum without at the same time eliminating out-of-date material. The value of *d* depended not only upon new discoveries but also upon their accessibility. Research had not produced as much fresh knowledge as it should. Apparatus and equipment should not be considered of more importance than the researcher himself. Too much research work was done to order, and work done for the sake of publication was often of little value. Medical literature was now so extensive that it had become unwieldy. Indexes of medical literature were inadequate and not sufficiently international. In the patient's mind the idea of magic was being transferred from the doctor to his instruments, but despite the deluge of quack medicines and pseudo-scientific advertisements the patient was gradually advancing in his medical outlook. Just as in 1835 no one could have foretold the position of medicine in 1935, so to-day one could not foretell what medicine will be like in 2035. Some unexpected new discovery might change everything, or, if the pessimists were right, the smash-up of present-day civilization might lead to the decline of medicine.

Dr. H. F. MOORE, said that in the last fifteen to twenty years America had undoubtedly advanced the medical knowledge of other countries very considerably. One had only to consider the work on diabetes and on duodenal ulcer, which had been so successful, to realize this. Research, of course, was of paramount importance in the advance of medical knowledge. He thought everyone felt that if facilities for medical research existed in Ireland it would be easy to regain the fame which the Irish medical school had held in the days of Stokes, Corrigan, and Graves. For some time a research scheme, started by the Academy, had been under consideration. Great difficulties had to be overcome, but the scheme had now been adopted by the authorities, and he thought it would in future be unhampered by departmental officials.

Dr. R. J. ROWLETTE appreciated the critical spirit in which the president had drawn attention to certain unpleasant tendencies in present-day medicine: it was good that these things should be brought to the test of reason from time to time. Among other matters Dr. Synge had

referred to team work, but the word team had been applied in two different senses, which it was important to distinguished. It had first been used for a group of three or four practitioners who banded themselves together for commercial purposes in running a practice. They had different capacities—surgeon, physician, or other specialist—but they dealt with everything that came their way in practice. Teams in this meaning of the word did not exist in these islands. On the other hand, the term was often applied to a group of practitioners each with a separate line of approach who could be assembled to deal with the problem in any given case. Instead of the team being a fixed group it was merely a group assembled for a particular occasion to deal with a particular problem. Such a group could be readily assembled in any university centre, and without such co-operation medicine would be much the poorer. On the other hand, very little could be said in favour of the team in the narrow commercial sense.

Dr. E. T. FREEMAN, referring to the question of advertising, said that at present practically everything was sold in every department of life by advertisement of some kind or another, either through newspapers or by personal canvassing. A large amount of pressure was put on the medical profession to use various drugs when they had had no opportunity of trying them. Advertising was now invading the medical journals in a most remarkable way, especially in America. A doctor was expected to buy a certain apparatus because his patients, having read advertisements in newspapers, expected him to have it, and these so-called medical advertisements constituted a danger.

Dr. W. R. F. COLLIS thought the results of research in America in the last ten yars had been more than worth while. Nowadays in international medicine Ireland did not hold the place it had held one hundred years ago ; in the last fifty years her contributions to international literature had been very sparse. He thought that Irishmen were really well fitted for research, but owing to lack of facilities it had not been possible to carry out this work in Ireland. This, however, would soon be remedied. It should be remembered that there were two sides to medicine, the clinical and the investigative, and a person who was good at one was not necessarily, nor indeed usually, good at the other. Unless research was pursued on a whole-time basis no work that was really good would be done ; research was essentially a whole-time job. Actual whole-time research clinicians were needed, and until work on these lines was carried out it was unlikely that any good medical literature would come from Ireland.

Dr. G. C. DOCKERAY said that there was a tendency to send everything except the patient and the necessary information to the laboratory. Forms were often erroneously filled up, and information about specimens sent for examination was sometimes so sparse and so inaccurate that it was almost impossible to know what tests to carry out. He hoped that under the new research scheme there would be facilities for the training of technicians, and that they would be paid a salary in some degree commensurate with the work they carried out. Dr. C. J. MCSWEENEY referred to the rise of the preventive idea in medicine, and said that it was a thoroughly desirable help. A number of diseases could be prevented now which some years ago it was impossible to prevent. No child to-day ought to develop diphtheria. It was known how to prevent scarlet fever, and other diseases were rapidly coming into the group which it was possible to prevent. This tendency should be welcomed very heartily, and when the new research scheme came into operation he hoped an opportunity would be given for work on the prevention of the infectious diseases. Dr. ALAN THOMPSON referred to the relationship of the subsidiary departments to the clinician. It was unfortunate that the pathologists and the radiologists were so much out of touch with the material with which they had to deal. He thought there was a great opening for the introduction of the pathologist to the hospital wards ; if this were done there would be a considerable increase in really useful clinical research work in Ireland.

The PRESIDENT, in reply, said he had not intended to cast any aspersions on the American School of Medicine. He quite agreed with Dr. Rowlette regarding team work: a team was not a fixed unit ; it varied according to the case. He thought that medical advertisements from a really reliable medical firm were of value. Research laboratories produced relatively little of value in proportion to their number and in proportion to the amount of work carried out in them. The preventive idea was very important in medicine. Hormones were still in the mist ; they would probably develop in years to come, but their number to-day was small and they did not occupy the prominent part that they probably would in the future. He thought that in medical education the approach to the subject was wrong. Students were obliged to learn too much anatomy and physiology. A student should not be allowed to enter the medical school without some preliminary scientific knowledge. Chemistry and physics were got through at such a rapid rate that they were not approached in a scientific spirit. A student's mind should be trained so as to enable him to take up facts which would come into force a few years after he was qualified. Medicine should be taught as a dynamic, not a static, subject.

The third meeting of the Midland Mental Pathological Society was held at the University of Birmingham on October 24th, when thirty-eight members and forty-nine visitors were present. Professor W. E. Le Gros Clark of Oxford gave a lecture on functional localization in the thalamus and hypothalamus, profusely illustrated by lantern slides showing the localization of thalamic and hypothalamic nuclei and their relations to the cerebral cortex, cerebellum, pituitary, and retina. He also replied to several questions put by members. A vote of thanks proposed by Sir Gilbert Barling and seconded by Professor Lockhart was carried with enthusiasm.

CORRESPONDENCE

A Doctor's Right to His Name

SIR,—The position presented by Dr. Hugh MacLean in your issue of October 19th (p. 759) has not escaped notice by the Central Ethical Committee of the B.M.A., and now that, happily, Dr. MacLean's restoration to health makes direct co-operation possible, it is to be hoped that his appeal may lead to a more active policy. As he points out, the procedure of which he has been the victim may be applied to any other practitioner, and the wrong to the individual is associated with risks which involve danger to members of the public. If protection from these mischiefs cannot be obtained under the existing law—and I understand that certain counsel learned in the law do not admit this negative—it is clearly the duty of organized medical authorities to press for legislation that will secure protection. And this duty is the more urgent seeing that, as an open secret, the advertisement of medicines and remedies making extravagant therapeutic claims in the public press is receiving critical attention in certain official and responsible quarters. It would be obviously unfair and unreasonable to allow the trouble and expense needed to safeguard alike the repute of the medical profession and the interests of the public to fall upon the individual practitioner.—I am, etc.,

London, W.1, Oct. 28th. C. O. HAWTHORNE.

SIR,—Dr. Hugh MacLean's letter in your issue of October 19th has suggested to me that I should make known some experiences I have had of late, which have been very much like his own.

In circumstances which have been described elsewhere I happened on a powerful remedy in the spring of 1925.

I found that by combining a minute quantity of pure potassium permanganate in powdered form with a small quantity of thyroid substance, and by administering this combination in cachets that could be sealed without water, clear-cut results could often be obtained in a number of serious conditions that were not easy to influence for the better by other treatments. And after further trial had been made in private to dissipate any doubts, I made this formula known throughout the profession on the advice of the late Sir Dawson Williams, in a paper that was published in your *Journal* on December 26th, 1925.

In the years that have passed since then I have studied the fortunes of this remedy closely, one of my methods of gauging its rising popularity having been by noting the increase in numbers of manufacturing druggists who were listing this combination under the title I had originally suggested—namely, the thyroid and manganese cachets—and I have been more than satisfied with the progress that has been shown, although never having partaken in a fraction of the profits these gentlemen have made. It was something like a shock, therefore, when I recently found my name bracketed at the side of the thyroid and manganese products that were being offered in the price lists of two wholesale druggists. And as one had gone so far as to offer "further details on application" I thought a lawyer's help was called for.

This was two weeks ago, and it was then I first learnt what Dr. MacLean seems to have known for the past four years: that as the law stands to-day we medical men have no redress in such circumstances. Although it is open to us to write and ask for the offending words to be removed there is no onus on these people to fall in with the request, and it would be useless to take legal proceedings unless libel can be proved. Moreover, I was informed that all manufacturing druggists have the right to make use of any medical man's name if his name is associated with a particular remedy, and that they can do so irrespective of any harm that might result to that individual in the eyes of his professional brethren. It would appear, in fact, that at present the law holds that the exigencies of commerce are of far greater consequence than the transgression of any code of medical ethics, and that if anyone suffers through this—why, it's unfortunate, but it cannot be helped. This state of affairs appeals to me as so absolutely one-sided and so un-English in its unfairness that it is my sincere hope that Dr. MacLean's suggestion will be taken up, and that efforts will be made to modify a law which operates so harshly against members of our profession.—I am, etc.,

HERBERT W. NOTT, M.R.C.S., L.R.C.P.

Guildford, Oct. 21st

Liver Abscess

SIR,—May I point out the error of Dr. G. C. Low's statement in his address on tropical medicine in your issue of October 19th that it was my discovery in 1912 of the value of emetine in dysentery that led "to the disappearance, to a large extent, of its most serious consequence—liver abscess." A glance at the diagrams in my Lettsomian Lectures on amoebic liver abscess before the Medical Society of London in 1922, and those in my *Recent Advances in Tropical Medicine* and in Rogers and Megaw's *Tropical Medicine*, will suffice to prove that the sudden and great decline in the mortality and incidence respectively of liver abscess in the British Army in India occurred in 1907 and 1908, immediately following the publication in 1906 of my paper demonstrating the great life-saving value of the substitution of aspiration and oral administration of ipecacuanha in place of the now obsolete open operation for liver abscess—with its almost inevitable secondary septic infection in a tropical climate—and in 1907 of one reviving and placing on a scientific basis the use of large doses of ipecacuanha in the pre-suppurative stage of amoebic hepatitis to prevent liver abscess formation, which had been advised on empirical grounds in 1886 by McClean and by Norman Chevers of the Indian Medical Service.—I am, etc.,

London, W.1, Oct. 24th. LEONARD ROGERS.

Cancer in Relation to Other Tumours

SIR,—In a recent number you mentioned the very varied character of the agencies credited with causing cancer, and drew attention to the difficulty of finding a common basis of agreement. There is, however, one effect shared by all alike—interference with development—and this may suggest an explanation. The growth and development of cancer and other tumours (leaving upon one side those that originate in the ovarian cells, for they form a class by themselves) are not like those of normal tissues. Their growth never stops. It may be fast or it may be slow, but the elements of which they are composed never cease to multiply so long as the supply of food lasts. In contrast with this their development never advances: either it comes to a standstill at the very beginning, or if this does not happen it never passes beyond the stage of individual cells, or fibres, or groups of cells. The cells always maintain the general character which was theirs when they began. There is never any organization or order or arrangement, and they never serve any useful purpose.

Growth and reproduction (for reproduction is only growth beyond the individual) are part of life. They begin with life and continue throughout life, unless the tissues become so highly specialized for one kind of work that they lose the capacity for all others. Structures such as the cells of the central nervous system and the elements of the organs of the special senses are examples of this. They are so highly specialized that they have lost the power of reproduction, and as a consequence no tumours are ever formed from them. Tumours can only grow from tissues that retain some measure of their original power.

Development, on the other hand, is the product of inheritance. It is built up, step by step, through countless ages from the accumulated adaptations of the cells to one particular kind of work. It has no finality and is constantly advancing, though it may be checked at any point. Such arrest is well known in connexion with organs where its effects are obvious; but any injury, chemical or physical, inflicted on growing cells, not sufficiently severe to kill them, can upset the harmony of their intranuclear arrangement and either distort development (as many *x*-ray experiments have shown) or stop it altogether. Growth and reproduction are not necessarily affected. They may escape if the injury is not too severe, and then, because development no longer absorbs so much of their energy, the tumour cells become more and more active, and multiply as fast as the conditions allow.

The result of arrested development and unchecked growth is a mass of cells, or of groups of cells, which, so far as their structure is concerned, are a more or less exact imitation of the original. But their character, whether they multiply rapidly and spread everywhere or grow slowly and remain localized, is determined by the stage the parent cell has reached at the moment its development is brought to an end. The nascent cell at the instant of its origin, before development has had time to begin, is the potential equivalent of its most primitive ancestor. The law that the development of the individual is an epitome of the evolution of the race

holds good from the very beginning of things, from the time when multicellular organisms made their first appearance, though the intermediate stages have long since become indistinguishable ; and it follows that the cell, at the moment of its origin before it has begun to develop, is in the same position as its primitive ancestor. It is capable of multiplying indefinitely, of moving within certain limits, and of penetrating into surrounding structures ; and if some injury, not too severe, prevents or checks its development at this stage, it retains and can exercise those powers.

What will follow depends upon the source from which the original cell came. If it was to have replaced damaged or lost epithelium or epidermis its descendants will spread into the subjacent tissues, multiply everywhere, and develop into one of the many varieties of cancer. If, on the other hand, it belonged to the connective-tissue group, it will either form one of the sarcomata, or, if some degree of development had already been attained before the injury brought it to an end, its descendants will reach the same standard, slowly increase in number, and push aside surrounding structures, forming one of the infinite variety of what are described as non-malignant tumours.—I am, etc.,

London, W., Oct. 23rd. C. MANSELL-MOULLIN.

Occupational Dermatitis

SIR,—Accustomed for some years to express an unbiased opinion on behalf of either employer or employee regarding claims for occupational dermatitis, I would like to lodge through your columns a protest against certain aspects of the legal mechanism whereby these cases are finally disposed of.

It would appear that an economical Government appoints in every district of Great Britain, after application, a senior consultant of widespread general medical knowledge to act as its adjudicator in cases where opinions are at variance regarding the causation of dermatological and many other disabilities. Such appointments can hardly be financially attractive to a senior consultant of any particular specialty, since the fees paid are inadequate in the extreme. The acceptance of the appointment of medical referee cannot be conscientiously made, for example, by a dermatologist who is still available for "employment" by the legal representatives of the man or by his employer's insurance company. As a result of the anomalous position such posts are only available to those whose knowledge of dermatology is admittedly slight, but whose appointment is made because of their capabilities of judging lesions of almost every organ in the human body.

Dermatologists will, as a whole, agree that only in an infinitesimal proportion of reports is question made as to liability of employers. In every case in which there exists an element of doubt as to external irritant as a possible factor report is made in favour of the man. Such reports are but rarely queried. The medical referee, in the small proportion of cases in which question as to responsibility is raised, is called upon to express a final opinion. His experience is accumulated after viewing a number of "doubtful" cases: he has rarely, if ever, had the opportunity of dealing with large numbers of dermatological lesions in other members of the population. How often has he had the opportunity of viewing such common lesions of the skin among individuals of all classes, both sexes, and all ages? He is compelled to base his experience and knowledge, therefore, solely on cases seen in (*a*) workmen, (*b*) adults, (*c*) claimants with preconceived knowledge as to existence of external irritants, and (*d*) individuals whose panel doctor has certified them as suffering from that all-embracing and ridiculously loose diagnosis "dermatitis," a diagnosis which correctly arouses the activities of the employee's representative. By law the opinion expressed by the referee after viewing the reports of both parties is final. No method of appeal exists for either party.

The whole position is anomalous, and without criticism of existing medical referees, whose conscientious efforts are often unappreciated, is it not time that the Home Office saw its way to introducing some means by which a panel of dermatologists would be available so that a report of a specialized nature on a case under argument could be made? Such appointment would be equally welcome to both sides in that a senior physician of many years of *specialized* experience, as contrasted to a physician without such experience, could be asked to act as referee. Such decisions could hardly be questioned.

Perhaps a dermatological board, analogous to the Silicosis Board, could be established. Perhaps the whole difficulty could be overcome by the following measures: (1) Appoint as medical referees specialists on the particular subject. Having regard to all the circumstances of the case he would probably be prepared to make his examination and give his report for a sum of three guineas (he now receives two guineas plus mileage). (2) It should be in the power of the court to increase that sum in exceptional cases. (3) In cases in which a medical referee is to sit as assessor the fee should be increased from the present sum (which I believe is three guineas) to a sum of five or ten guineas. (4) In larger cities, where the county court judge is more or less continually sitting, one day a month should be fixed for cases of a particular class, where a medical referee is summoned—for example, the first Tuesday in the month for eye cases, first Thursday in the month for dermatitis cases. The advantage of this would be that a medical referee would know beforehand, and therefore could keep free one day a month. It would also mean that he would often have several cases on the same day, and the judge, being empowered to fix the fees within certain limitations, would allow him, say, for the day twenty guineas if there were several cases. (5) When a medical referee had been summoned, the successful party, except by special leave of the court, should not be granted any cost for expert medical witnesses.

A probable reply to this criticism is that a medical referee is now called upon to read and consider reports regarding many different dermatological, pulmonary, and medical conditions. He need express no opinion as to the reliability of the opposing medical opinions or on the qualifications of such reporters. He is not called upon to decide on diagnosis or aetiology. Specialized consideration is not present nor apparently expected. Yet surely he should give written explanation as to reasons for his decisions?—I am, etc.,

P. B. MUMFORD, M.D., F.R.C.P.

Manchester, Oct. 25th.

Migraine

SIR,—In his article on the treatment of migraine in your issue of October 26th Dr. Macdonald Critchley does not discuss the essential pathogenesis of the disease—namely, water retention. It does not seem to be generally recognized in this country that such retention of fluid and its accumulation in this or that tissue occur in a number of non-specific diseases, and are the immediate cause of the recurrent attacks or exacerbations of the symptoms. Among them are epilepsy and migraine, in which the accumulation takes place in the brain ; bronchial asthma, vasomotor rhinitis, and mucous colitis, in which it occurs in the corresponding mucous membranes ; urticaria and eczema of internal origin, and angioneurotic oedema, in which there is oedema of the dermis, epidermis, and subcutaneous tissue respectively ; paroxysmal hydrarthrosis and gout, in which the retained fluid is periodically accumulated in the joints.

In epileptics it is possible to provoke their attacks at will by injections of pitressin, which causes decreased water elimination, and the administration of large quantities of fluid, but I do not know whether this experiment has been tried in migraine. That there is retention of fluid, however, in this condition is certain, and the post-paroxysmal diuresis—" urina spastica "—is a well-recognized symptom.

The whole question is discussed in detail in Eugene Földes's work *A New Approach to Dietetic Therapy*, and in sundry papers by him—for example, " A New Aspect of Migraine and Certain Related Conditions " (*Amer. Journ. Digest Dis. and Nutrition*, August, 1934, i, No. 6). It is one of fundamental importance, not only on theoretical grounds, but because its recognition provides a rational and, in the majority of cases, successful line of treatment.—I am, etc.,

London, W.1, Oct. 28th. H. W. Barber.

Dental Deformities

Sir,—I have refrained from answering Sir Robert Woods's letter, in which he expressed the opinion that the deformities due to thumb-sucking were due in large measure, if not entirely, to congenital syphilis, until I had consulted my dental officers and my orthodontic specialist. I myself am not unacquainted with the manifestations of congenital syphilis as I spent my early days training as a paediatrician, holding five appointments at four children's hospitals in addition to doing the work in the children's wards of the two general hospitals where I was house-physician, one of which was my own teaching hospital. In one of the children's hospitals it was my good fortune to be house-physician to that wonderful clinician Dr. J. A. Coutts, who was at the time interested in the manifestations of congenital syphilis, and for whom I used to make coloured sketches of unusual rashes.

With just forty years' experience of children, of which the last twenty-seven have been spent as a medical officer of health and school medical officer—even now, by reason of my interest in children's diseases, retaining two infant welfare clinics weekly—I estimate that, despite the longer life of Sir Robert Woods, I shall not be far wrong if I say that I have seen at least five times as many children as he has. I feel, therefore, that I am not likely to have overlooked the manifestations of congenital syphilis, if present.

I have no hesitation in stating that in the many cases of the deformity of the character I described there was not a single one that could be ascribed to, or showed any evidence whatever of, congenital syphilis. My senior dental officer, with over thirty years' experience, mostly among children, confirms this statement. My orthodontic specialist, Mr. Evans, who is one of the staff of the Royal Dental Hospital, dealing specially with the children's department, has, out of his huge experience, seen only one case where congenital syphilis was present in a patient with the thumb-sucking deformity, and in his opinion the combination was fortuitous. These pressure manifestations are so distinctive that it is possible, with practically 100 per cent. accuracy, to differentiate between the deformity produced by thumb-sucking and dummy-sucking.

I wrote my article to assist the general practitioner in dealing with these cases. It would seem as if I ought to have included the consultants as well.—I am, etc.,

Elwyn H. T. Nash,
M.O.H. and S.M.O., Borough of Heston and Isleworth; Honorary Fellow, American Stomatological Association.

Public Health Offices, Hounslow, Oct. 28th.

Frequency of Twins

Sir,—I have recently received an interesting paper on twin pregnancy which Sir Kedarnath Das was kind enough to send me. As perhaps might be expected, he finds that more twins are recorded in hospital than in general statistics, the relative figures being 1 in 79 in the former as against 1 in 90 in the latter. Further, twins are more frequent among the Indian patients than among the Europeans in Indian hospitals. For example, with regard to the natives of India, an analysis of the hospital statistics shows an incidence of 1 in 59, while among the European and Eurasian patients in the same hospitals the incidence was only 1 in 95. It would also seem that twins were more frequently recorded among the coloured population of North America than among the white, the proportion in the former being 1 in 67 and in the latter 1 in 88. Very interesting statistics are given for countries in Europe, for America, India, Japan, and elsewhere. With regard to the Chinese the following incidence is recorded: out of a series of 16,010 deliveries at the Hong-Kong University Clinic there were 124 cases of twins, an incidence of 1 in 129.2.

For the sake of comparison I have ventured to quote some of Sir Kedarnath Das's figures:

	Birth Statistics	Hospital Statistics
Italy	1 in 85	1 in 62
Germany	1 in 82	1 in 83
Scotland	1 in 83	1 in 71
Russia	1 in 71	1 in 43
Ireland (Rotunda Hospital Dublin)	—	1 in 66
Madras	—	1 in 65
Japan	1 in 301	1 in 93

The figures for Japan are of particular interest to me, since they approximate more or less to my own for Chinese patients, and serve to suggest that twins may not be so common among the Mongolian races as among the Caucasian.

Thanks are due to Sir Kedarnath Das for his courtesy in sending me his paper.—I am, etc.,

R. E. Tottenham,
Late Professor of Obstetrics and Gynaecology, University of Hong-Kong.

Londonderry, Oct. 23rd.

Pyloric Stenosis in Uniovular Twins

Sir,—The report by Dr. J. W. Redgate in the *Journal* of October 19th (p. 725) of congenital pyloric stenosis in twins is of some considerable academic interest, but unfortunately his record gives no indication of the evidence which has led him to conclude that the twins were in fact uniovular. The fact that they were of the same sex does not of course differentiate a uniovular from a binovular origin. The only evidence of their uniovular origin in the case of young infants where similarity of physical and mental characters cannot be utilized for diagnostic purposes is that furnished by the identity of the finger-prints or footprints, as well as by the twins belonging to the same blood group. Dr. Redgate does not state that these investigations have been carried out.

If Dr. Redgate is convinced that the twins were uniovular then the presence or absence of kinship in the parents has no more bearing upon this case of twins, whose genetic constitutions are presumably identical, than it has in any other case of this condition in a *single* child. As to what relevance it has in cases of binovular twins is a matter which opens up a wide field for academic discussion.—I am, etc.,

W. M. Feldman, M.D., F.R.C.P.

London, W.1, Oct. 22nd.

Puerperal Streptococcal Septicaemia

SIR,—I welcome the excellent letter of Dr. W. D. Allan in the *Journal* of October 12th on the question of the apportionment of the blame for those cases of puerperal deaths which from time to time all practitioners of obstetrics see. The lay press, taking their cue from some of our leading gynaecologists, have for too long been harping on the theme of the uneducated and negligent general practitioner and midwife.

I have personally conducted over 1,600 confinements in every social class and in every kind of environment. This may not be a vast experience, but it has confirmed me in the unalterable opinion that the *fons et origo* of puerperal disasters is in the already potentially infected woman herself, or in some other anatomical or biochemical latent disability inherent in her constitution.

My experience is exactly the same as Dr. Allan's and countless other practitioners'. I have had, many a time before the district where I practise was supplied with midwives, to carry out difficult obstetric procedures on unclean women on filthy beds alive with fleas, " helped " by a direct lineal descendant of Mrs. Gamp, the floor area almost completely occupied by the large double bed, one guttering candle, and a limited supply of hot water. Results? A normal puerperium, and the mother well and hard at work in a fortnight. The opposite picture need not be sketched. The incidence of sepsis and other post-natal troubles are evenly divided between the two classes.

No, Sir, these clerics and elderly ladies are barking in chorus up the wrong tree. If these anxious and bewildered committees on maternal mortality wish to see the death rate in childbirth reduced to *nil*, there must be compulsory attendance of all women of marriageable age at clinics where conception control (to use Lord Horder's more accurate term) is taught and practised with a view to eliminating those cases which are clearly unfitted to become mothers owing to hereditary or acquired defects, and also in order to regulate the spacing of births. Those women passing the conception control room would then be periodically investigated biochemically and bacteriologically and treated according to the findings before a pregnancy were permitted—a measure, I grant you, unattainable for many generations perhaps and savouring of Mr. Aldous Huxley's " brave new world."

But this is an appeal, with Dr. Allan, to our honest and generous specialists in obstetrics to uphold to the public the prestige of us general practitioners who bear the heat and burden of the day and who are no more to be blamed for deaths in childbirth than for deaths from cancer.—I am, etc.,

Eythorne, Dover, Oct. 22nd. G. E. BELLAMY.

Intussusception

SIR,—The very interesting article by Mr. P. L. Hipsley in the *Journal* of October 19th (p. 717) reminds me of what I believe was the first case of intussusception reduced by the hydrostatic method. *Guy's Hospital Reports* recorded the successful experiments done in the post-mortem room on post-mortem intussusceptions, and I made up my mind that if I ever had a case I would adopt that method. The description given by Mr. Hipsley of the little operation is, I think, almost identical with that which I published in the *British Medical Journal*, I believe in the eighties of last century. The details he gives of the diagnosis of reduction should make the operation of general use where the abdominal operation cannot be performed. Ignorance of these details has since led me to send in an infant for the major operation, the results being so excellent. I might add that in my early case the diagnosis was subsequently confirmed by Mr. (later Sir) Charters Symonds.

The danger (in the hydrostatic method) to be feared used to be that a rupture of the peritoneal coat of the bowel might take place. There is no mention of anything of the sort in the numerous cases Mr. Hipsley speaks of or has operated on. The pressure I used was only fifteen inches—about one-third of what Mr. Hipsley used. Early operation without any loss of time, as in my case, is undoubtedly the first thing in these young children, whatever method is employed.—I am, etc.,

Wokingham, Oct. 22nd. F. R. HUMPHREYS.

Treatment of Bell's Palsy

SIR,—Having had considerable experience in the after-care of Bell's palsy, I have come to the conclusion that the muscles supplied by the seventh nerve which do not respond to faradic stimulation after three months never recover satisfactorily. Should they recover voluntary power after six months the emotional expression is altered or distorted. It is all very well to talk about " decompression in the Fallopian canal," but how is one to be certain that the trouble is in the canal and not in the nucleus?—I am, etc.,

London, W.1, Oct. 22nd. JOHN SAINSBURY.

Circumcision

SIR,—I have been very much interested in the correspondence on circumcision. What it all comes to is this. Are doctors to be governed by purely medical reasons or not? Such arguments as those put forward that it lessens the likelihood of masturbation and the sensitivity of the glans penis, that it increases the erotic pleasure of the partner in copulation, etc., are scarcely in the realm of medicine, but of morality.

Masturbation is a normal and harmless manifestation, except when it occurs in excess as a symptom of mental ill-health, and it savours of Jovian omniscience to interfere with the naturally provided erotic mechanism, although, of course, the untutored savage does not hesitate to do so, and could no doubt give many reasons for excising the clitoris or rupturing the perineum or ripping open the male urethra.

To those who instance the occurrence of preputial lesions necessitating amputation in later life as a reason for preventive circumcision in infancy one would say—" Why not eradicate the appendix, the tonsils? Why not expose the child to measles, mumps, whooping-cough, and chicken-pox?" Or is the doctor expected to be a prophet?

Circumcision of the male prepuce, except when done in the presence of a definite physical lesion, as is the case with all the other bodily organs which are liable to disease, is a propitiatory gesture, incapable of justification on surgical grounds.—I am, etc.,

Hereford, Oct. 20th. J. L. FAULL, M.R.C.S., D.P.M.

SIR,—The description of a method of treating phimosis by a dorsal slit of the foreskin urges me to add yet another to the numerous letters on this matter. I too tried this as a substitute for the usual circumcision, but found the results far from satisfactory. With a lengthy foreskin two flaps resulted which hung down like miniature elephant's ears, and frequently became irritated from contact with urine. In more than one case a subsequent operation of circumcision was necessary to remedy this

condition. I have now for many years used the following simple technique, which has given entire satisfaction.

The foreskin is retracted, and after separation from the glans the tight preputial orifice is snipped at three points, one on the dorsum, the other two on each side of the fraenum, so that the three incisions are equidistant from each other. The foreskin is then *fully* retracted, and if the three snips have been accurately judged the foreskin should remain in this position. If too tight it is a simple matter to enlarge the incisions somewhat and secure an easy "fit." The incisions made in the long axis of the penis become stretched to form three segments of a circle, and heal without producing any deformity such as that described above.

The usual dressing is a strip of gauze soaked in sterile vaseline, which effectually prevents soiling with urine. Should the opening be too wide the foreskin may slip forward, but it is not a difficult task for the nurse to push it back daily, and healing occurs perhaps more slowly, but equally satisfactorily.

—I am, etc.,

London, S.W.19, Oct. 28th. J. A. POTTINGER.

SIR,—The simplest method of relieving a phimosis in the newborn has so far not been mentioned in the discussion. This consists in simply splitting the foreskin with scissors, putting in three stitches, one at the corona and one at each anterior corner. Practically no interference with either the nerve or blood supply happens, and "cosmetically" the result is excellent.—I am, etc.,

Crewe, Oct. 27th. W. L. ENGLISH.

SIR,—I do not agree with Dr. R. W. Cockshut that the less sensitive glans of the circumcised is conducive to chastity and forms a shield against sexual perversions. The Mohammedan is not any more chaste than the non-Mohammedan, nor is he free from sexual perversions. I should also have thought that the exposed glans would have attracted the adolescent's attention more than the covered one. As regards manipulative surgery in phimosis, I fail to see the objections raised by some of your correspondents. It has its place wherever practicable, and I have seen no ill effects follow its practice.

Circumcision is the last resource, and it is possible that there is a certain amount of "psychic trauma" attending its performance on an introspective boy. Can it be that the circumcision of a highly sensitive and gifted boy made him inflict on the world his "castration complex"?—I am, etc.,

Edmonton, N.9, Oct. 20th. M. P. K. MENON, M.B.

SIR,—It seems that the opinion of the majority of your recent correspondents on the subject of circumcision in childhood for phimosis is that (1) it should be done where required; (2) the risk of operation and its consequences are small; (3) the manipulative stretching method has its drawbacks; (4) from a psychological point of view it is undesirable and even embarrassing for either mother, nurse, or, later on, the child himself to pay so much and constant attention, etc., to his genital organs; (5) if venereal disease is contracted the circumcised are in a cleaner and more hygienic state; and finally (6) some uncircumcised people fail to keep themselves clean, as is well illustrated in the following case.

Some six or seven years ago a young Englishman, who acted as a representative for a British firm in Germany, came to me while on holiday in London on account of some "white" discharge from his penis. As he had been exposed to possible infection he was sure he suffered from gonorrhoea. On examination, however, I found that his foreskin was adherent to the glans, and that between the two there was a thick layer of yellow-white cheesy smegma or concretion. It was very adherent, and owing to some inflammation it took me a few days to remove it gradually with warm alkaline lotion, and so separate the adhesions, etc. The patient was, however, greatly surprised when I told him he did not suffer from gonorrhoea, but from the effects of local uncleanliness.

—I am, etc.,

London, N., Oct. 19th. L. B. SHEINKIN.

SIR,—A somewhat provocative letter which I wrote as a soporific in the hot hours of an early August morning has been followed by such a long correspondence that I wonder if you will allow me to thank those who have tried to point out my errors and to lead me into the right way.

Many of the writers are so lost in admiration of their own technique that reasons for their procedure are obviously of secondary consideration with them. But the one with whom I am most in sympathy is Dr. H. M. Hanschell (*Journal*, October 5th, p. 642). He says that with universal circumcision his patients in a venereal disease clinic would be cleaner and easier to handle and treat. Not, be it noted, that the incidence of such disease would be lessened, or that treatment would be more efficient, but that Dr. Hanschell would have an easier time. And if I were in his place I have no doubt that I should be of the same opinion.

Now with regard to the condition known as "phimosis," may I point out the elementary fact that the preputial orifice is surrounded by a fibro-elastic ring, and that fibro-elastic tissue stretches with varying degrees of ease and rapidity in different individuals. Anyone who has patiently watched the slow stretching of the perineal region in a primipara must realize this; and also that a very small opening can be gradually dilated to a great size without injury, provided that ample time is taken and the force exerted is not too great. Similarly, a small preputial orifice which cannot be stretched to the size of a threepenny-bit in half a minute is not a pathological condition; and there is no justification whatever for losing one's patience and forcibly cutting or stretching it. If I innocently ask why it is so necessary that a baby's prepuce should be retracted at the earliest possible moment I know that I shall be met with a sniff and a snort, and be shrivelled up by the magic word "cleanliness."

So to those of the profession who have time to think may I leave a few questions for consideration? What is the use of Tyson's glands, and at what age do they begin to function; when does a natural secretion become "dirt"; and what dreadful thing will happen if a baby's prepuce is left entirely alone?—I am, etc.,

Kirkby, nr. Liverpool, Oct. 27th. R. AINSWORTH.

⁂ This correspondence is now closed.—ED., *B.M.J.*

Hyoscine in Parkinsonism

SIR,—A really rather amazing thing has happened here lately. There are in the Star and Garter Home a large number of cases of Parkinsonism following encephalitis lethargica in various stages.

One of these cases—that of a very highly educated man aged 44 years—has been here for over ten years, for the last six of which he has been confined to his bed, and has definitely not spoken a word. Some two months ago he had very excessive salivation, and on account of this hyoscine 1/100 grain was given twice daily. After three days this patient began to talk, and he has hardly stopped talking since! This has cheered him up and made him feel very much better. He is still confined to his bed and is unable to move his limbs, and he has to be fed; but to me it appears to be a most extraordinary thing that after all these years the exhibition of some 6/100 grain of hyoscine over a period of three days should have restored his speech.

The hyoscine medication is being continued, and his talkativeness also continues. I am not a neurologist, but record this most unusual happening in the hope that possibly somebody may be able to produce an explanation. There can be no question as to the coincidence of the medication with the return of speech.

I have tried this treatment by means of hyoscine in other cases suffering from the same disease who are silent, and wonder whether the effect will be the same.—I am, etc.,

EDWARD GOWLLAND,
Commandant.

Star and Garter Home for Disabled Sailors and Soldiers, Richmond, Surrey, Oct. 25th.

Status of the Ship Surgeon

SIR,—Many years ago, while deputizing as medical superintendent of a steamship company, I was asked to devise and carry out measures to raise the status of the company's surgeons. I found that, irrespective of what the company did to improve the conditions of service, this thing called status was something that depended ultimately on the surgeon himself and followed him from ship to ship. Thus in one ship the surgeon would have the respect and confidence of passengers and crew. Prospective patients would wait to travel by his ship in preference to other ships, and ex-patients would keep in touch with him long after they had ceased to be passengers. The discontinuities in professional duties that are at times a characteristic of the ship surgeon's routine would in his case be reduced to a minimum and mainly utilized for study. In a sister ship one would find a surgeon who, in spite of high medical qualifications, had just as conspicuously failed to achieve any professional standing with passengers or crew, and was obviously more of a success in the public rooms than in the sick-room. Intermediate grades between these extremes could be found in different ships.

Status was a rough index of something else called efficiency, which in so far as it applied to the ship surgeon was found to be a function of character and temperament quite as much as of medical or surgical attainments, a fact that is not yet sufficiently appreciated by many whose duty it is to appoint ship surgeons. There is every reason to believe that when surgeons are chosen with due regard to character and temperament as well as to medical qualifications a steamship company will obtain a greater degree of service or utility from a permanent or semi-permanent medical staff than from one which is being frequently changed. (Canadian Government immigration and quarantine officials who have an interest in the work of ship surgeons in ships touching at Canadian ports have always discouraged the carrying of temporary surgeons.) A well-selected medical staff can become a valuable asset to a steamship company. Apart from the obvious advantage that results from passengers knowing in advance that the medical service in the ships of a particular company is of a reliable standard, there are innumerable ways in which a loyal and efficient surgeon can protect the interests of his company—for example, by minimizing medico-legal claims, avoiding delays at quarantine, cutting down wastage in medical stores, etc.: the list grows with the ability and experience of the surgeon.

During his first few months at sea, while he is becoming more and more expert in the various activities outlined above, $\frac{dE}{dt}$ (E = efficiency, t = time) is of course positive and its magnitude proportional to the suitability of the surgeon for the post he holds. Follows a more or less lengthy period depending on the type of ship, average number of passengers, etc., during which the above coefficient remains approximately at zero (it being assumed that the surgeon is keeping up his reading of medical literature). Throughout this period he will continue to be of considerably greater value to his company than any newly appointed surgeon. Sooner or later, however, in spite of his efforts to keep up to date, his $\frac{dE}{dt}$ will assume persistently negative values, and at some point in this stage—usually recognizable by the ship surgeon himself—a course of post-graduate study is indicated to restore his efficiency. (I have detected the signs in myself on about seven occasions and taken the appropriate courses of treatment in England and abroad.) Any steamship company with a permanent medical staff that fails to provide the latter with special opportunities for taking periodic courses of post-graduate study is certainly not obtaining the best value from it. The smaller companies have probably not enough to offer in order to attract the best type of permanent surgeon. Even in these companies a nucleus of three or four well-selected permanent surgeons, paid at a special rate, might do much good in keeping up the standard among the temporary ones.

I can endorse Dr. Hamerton's recommendation (September 14th, p. 520) of sodium evipan as a useful anaesthetic for the ship surgeon to have at hand. His reference to three major operations during his last three voyages is, I think, likely to give an erroneous idea of the frequency with which the ship surgeon is usually called upon to operate. In these days no ship surgeon should lack the ability to perform an emergency abdominal operation with reasonable skill. The ability to recognize when a case of appendicitis may safely be left alone is less easy to acquire but no less important. Like most ship surgeons who have been many years at sea I have had to perform a fair number of emergency operations—in some instances by acting as surgeon and anaesthetist combined. Most of these operations have been for acute appendicitis, but they represent a fairly small percentage of the cases of this disease coming under one's care at sea in which the attack has completely cleared up under expectant treatment.—I am, etc.,

A. GARDNER, M.B.

Southampton, Oct. 17th.

P.S.—I have just seen Dr. Meighan's letter on the subject (October 5th, p. 644), and find myself in agreement with much that he writes, but I am certain that he underestimates the incidence of serious illness at sea.

SIR,—"Late Ship Surgeon," in your issue of October 19th, seems to have been unfortunate in the shipping companies he has worked for. He says:

"I have yet to see a ship in which the barber's shop is not in every way—as regards size, position, lighting, water supply, and electrical facilities—superior to the doctor's surgery and consulting room. The surgeon's cabin is nearly always inferior in position, size, and appointments to that of the chief officer, chief engineer, or chief steward."

I shall be very glad to give him the names of three shipping companies where the status of the surgeon leaves nothing to be desired, and the surgeon's accommodation is really excellent. Two of the lines travel to the Far East, and the third across the Atlantic. I have now left the sea, but in my last ship, the *Corfu*, my accommodation was equal to—in my own opinion superior to—that of the officers he mentions. So far as drugs and equipment were concerned, I had 75 per cent. over and above Board of Trade requirements, and, in addition, in common with other surgeons of the line, I had authority to order whatever drugs I pleased at intermediate ports. I personally never had any requisition

questioned. Moreover, microscopes were supplied, and surgeons were expected to be familiar with their use.

During my time at sea I took every opportunity of calling on my "opposite number" in other ships in port, not only in sister ships of our company, but on the surgeons in other lines, and I can honestly say I never found conditions as bad as those described by "Late Ship Surgeon." I can only conclude that he has been unfortunate in his voyages, but I think it a pity he should condemn all shipping companies on that account, and thereby discourage otherwise suitable young men from applying for a job at sea.—I am, etc.,

COLIN J. N. CAMERON,
Late Surgeon, R.M.S. *Corfu*, P. & O. S. N. Company.

London, S.W., Oct. 23rd.

Small-pox Mortality

SIR,—It is a remarkable fact that in dealing with the rate of mortality from small-pox in the eighteenth century so little attention has been paid to the fact that small-pox and chicken-pox were at that time supposed to be the same disease. In the report of the Royal Commission on Vaccination there is no reference to this fact. The statistics of Dr. Jurin are quoted as showing an average rate of fatality of 16.5 per cent. among those attacked. Reference is also made to the great mathematician Bernouilli, who remarked on the great variability in the fatality in different epidemics, which might be as high as 1 in 3 or as low as 1 in 40. The comment of the Commissioners in the report of the majority was: "So great are the variations that only very large numbers would justify an average being accepted as showing what may be called the normal or natural fatality." (Para. 53.) It is strange that they omit to mention that these statistics refer without distinction to the two diseases variola and varicella. I submit that the only value that can be attached to these eighteenth century statistics is to show that the small-pox fatality among those attacked was very much greater than was supposed at the time; probably Jurin's 16.5 per cent. should be more than doubled.

The subject seems well worth consideration, as great importance is attached to it by opponents of vaccination. They naturally contend that recent statistics giving a high rate of mortality among the unvaccinated must be fictitious if it was so much lower before the discovery of vaccination. For instance, in Dr. Gayton's 10,403 cases at the Homerton Hospital there were 2,169 cases among the unvaccinated, and the fatality rate was 43 per cent.

It seems a reasonable inference that there is no real discrepancy between Dr. Gayton's 43 per cent. as the normal fatality and Jurin's 16.5 per cent. for the two diseases—small-pox and chicken-pox taken together.—I am, etc.,

C. E. SCUDAMORE.

Parkstone, Dorset, Oct. 20th.

Association of Industrial Medical Officers

SIR,—I shall be obliged if you will allow me to correct certain misconceptions that have arisen in connexion with the announcement sent to you, and published in your issue of October 5th (p. 645), concerning the formation of this association. It was not intended to imply, nor was it stated, that the association replaces and continues the work of the Advisory Medical Committee of the Industrial Welfare Society, for both bodies have sprung from the original membership of the pre-existing Council of Industrial Medicine. It was incorrect to state that the members of the association "continue to constitute" the Advisory Committee, for though many of the members of the former, including myself, have been members of the latter since its formation, and continue to give their services to it, the Advisory Committee contains also a number of other medical practitioners whose interest in industrial medicine is of a more general or less active nature. The committee of the Industrial Welfare Society is largely an advisory body, whereas the association exists for mutual study and research, and its membership is limited to those actively engaged in industrial medicine. Close co-operation between the two bodies has been arranged.—I am, etc.,

N. HOWARD MUMMERY,
Chairman, A.I.M.O.

London, W.14, Oct. 24th.

Medico-Legal

USE OF THE TERM "SURGEON"

Jutson v. Barrow

The King's Bench Divisional Court delivered on October 25th a judgement of great importance to all medical practitioners, for its effect was to state definitely, for the first time, that no one who is not a registered medical practitioner may call himself a surgeon, no matter what qualifying adjective he chooses to place in front of it.

The law allows anyone to practise medicine and surgery, with a few exceptions such as dentistry and the treatment of venereal disease. For the protection of the public, not necessarily of the doctors, the Medical Act, 1858, lays down that:

> "Any person who shall wilfully and falsely pretend to be or take or use the name or title of a physician, doctor of medicine, licentiate in medicine and surgery, bachelor of medicine, surgeon, general practitioner or apothecary, or any name, title, addition, or description implying that he is registered under this Act, or that he is recognized by law as a physician, or surgeon, or licentiate in medicine and surgery, or a practitioner in medicine, or an apothecary, shall, upon a summary conviction for such offence, pay a sum not exceeding twenty pounds."

In Whitwell *v.* Shakesby (1932) a person who affixed to his premises a name-plate bearing the words "Bonesetter—Osteopathic Physician and Surgeon" was convicted by order of the Divisional Court; Lord Hewart, the Lord Chief Justice, remarked that the respondent had used the words only because they appeared to convey that he had qualifications which in fact he had not, and which the Medical Act prevented him from assuming.

The Medical Defence Union, by Mr. W. E. Jutson, preferred last September three informations against Captain Horace Barrow of Paignton for affixing to his premises a plate bearing the words "Captain H. Barrow, M.M., Manipulative Surgeon." He was not on the *Medical Register*. The justices of Paignton held that Captain Barrow used the title "wilfully," but lawfully in that it described his work or craft; they dismissed the information and awarded him fifty guineas costs.

Judgement of Divisional Court

On the appeal to the Divisional Court, the Lord Chief Justice, Lord Hewart, said that the words of the Act seemed reasonably plain. It would have been quite simple for Parliament simply to enact that anyone who wilfully and falsely used any name implying that he was registered when he was not should be liable to a penalty. Parliament had not taken that course, but had framed the section in a twofold form. The first part of the section contained certain well-known expressions. If for the moment the word "surgeon" were subtracted from that list, every one of the others was a well-known professional description. Why, then, asked the Lord Chief Justice, not "surgeon"? Having enumerated and protected those specific and well-known descriptions, the section went on to prohibit the false use of any description implying that the person was registered. In other words, having prohibited the improper use of any of the well-known titles of qualified practitioners, the section

went on to sweep into the net of what was forbidden any name which had the effect of implying that the unregistered person was registered. The words beginning with "implying that he is registered" did not purport to describe the person's intent; they described the effect of the title he took. The section was to protect the public, and regarded, not the mind of the individual, but the meaning likely to be conveyed by the words. The earlier cases gave no clear authority on the interpretation of the section. In Lord Hewart's opinion it prohibited the use of any of these names and well-known descriptions. If an unqualified person used one of these names, he could not then borrow the second part of the section and say that the name he employed did not imply that he was registered. If he was not a surgeon he must not call himself a surgeon, and it was quite idle to say that "surgeon" was used to qualify or modify "manipulative." What this respondent had always asserted was, "I am a surgeon, and if you ask me what kind of surgeon I am, I am a manipulative surgeon." The use of the word "surgeon" was desirable because of its well-known and particular connotation. The respondent had chosen to use the word "surgeon," the meaning of which was clear to the man in the street, and it did not matter that he had chosen to attach to it the tautologous epithet "manipulative."

"Speaking for myself," said the Lord Chief Justice in conclusion, "I cannot imagine any adjective which, being added to the title 'surgeon,' would excuse the use of the word 'surgeon' by a person not registered or recognized as a surgeon under the Act of 1858 unless, as is in the case of a veterinary surgeon, he is expressly protected by statute. In the present case the only fact which needed to be found was, Did this man call himself a surgeon? The answer to that question was obvious."

Mr. Justice Humphreys and Mr. Justice Singleton agreed, and also delivered judgement. The case was sent back to the justices with an order to convict, but to impose only one penalty on the three informations. The award of fifty guineas costs was quashed.

Mr. Jutson, the appellant, was represented by Mr. R. P. Croom-Johnson, K.C., M.P., and Mr. G. D. Roberts, instructed by Messrs. Hempsons; Captain Barrow, the respondent, was represented by Mr. Norman Birkett, K.C., and Mr. J. D. Caswell, instructed by Messrs. Walter Crimp & Co.

Obituary

We regret to record the sudden and unexpected death on October 23rd of Dr. IAN D. SUTTIE, who was well known as a psychiatrist and a writer on the scientific and popular sides of psychology. Ian Dishart Suttie was born in 1889, and was educated in the University of Glasgow, where he graduated M.B., Ch.B. in 1914. Six years later he obtained the F.R.F.P.S. Glasgow, and in 1931 proceeded M.D. He practised at first for some years in that city, and held appointments at the Govan District Asylum, Hawkhead, the Glasgow Royal Asylum, and the Gartnavel and Kenlaw private asylum. He then came to London, where he was in consulting practice. He was a psychiatrist to the Tavistock Clinic, and later physician to this institution when it removed to Malet Street and was renamed the Institute of Medical Psychology. He rendered great service to it, both as clinician and as one of its staff of lecturers, and he was deservedly very popular with his colleagues and his many patients, to whom he brought a kindly understanding and sympathy. He was an able writer, and contributed repeatedly to the columns of the *British Medical Journal*, the *Journal of Neurology and Psychopathology*, the *Journal of Mental Science*, and the *British Journal of Medical Psychology*. In addition to the more technical side of this subject, he was a keen student of its sociological implications, and in 1933 wrote on religion, racial character, and mental health. His latest work, on the origins of love and hate, is in the press. He was a member of the British Medical Association and the Royal Medico-Psychological Association. He married Miss Jane Isabel Robertson, who is also a medical graduate of Glasgow and well known in psychiatric circles.

Mrs. JESSIE DEANS CAMPBELL, *née* Rankin, wife of Dr. Macfie Campbell, who is director of the Boston Psychopathic Hospital, died at her home in Cambridge, Massachusetts, on October 8th. Born in Lisbon fifty-five years ago, she was educated at Queen Margaret College and the University of Glasgow, where she graduated M.B., Ch.B. in 1907, having previously obtained the M.A. and B.Sc. degrees. She travelled widely, and was a keen student of life. She did not practise medicine, beyond assisting her husband in his work and taking a special interest in the nervous disabilities of childhood. She was also interested in various settlement houses. She is survived by four children, and a brother is in practice in Glasgow.

We regret to record the death, on October 1st at Kirkton, Forfar, of Dr. J. A. LOWSON, who had rendered distinguished service to the British Medical Association in Hong-Kong during the closing years of the last century. James Alfred Lowson received his medical education in the University of Edinburgh, where he graduated M.B., C.M. in 1888. Soon afterwards he went out to Hong-Kong, where he quickly distinguished himself in the field of epidemiology. He held various posts in the Hong-Kong Medical Service, including that of superintendent of the hospitals for epidemic diseases. He was also acting principal civil medical officer, and surgeon captain of the Hong-Kong Volunteers. In 1897 he was special plague commissioner and adviser to the Government of India. This disease had engaged his close attention, and he published two official reports on it and other epidemic diseases. When the Hong-Kong and China Branch of the B.M.A. was formed in 1891 Dr. Lowson was its first honorary secretary, and for the first two years of its existence devoted himself to its development in this capacity. In 1893 and the two following years he served it as honorary treasurer, and was president in 1896. He was a Fellow of the Royal Society of Medicine, and a member of its epidemiological section. The latter years of his life were spent in Forfar, where he interested himself in local activities. He was appointed Provost of the town in 1929.

Dr. LAURENCE GAVIN, who died on October 15th, had been resident medical superintendent of the Mullingar Mental Hospital for twenty-three years, and was one of the most highly esteemed and popular practitioners in West Meath and the surrounding Irish counties. Born in 1875, Laurence Gavin was a medical student at Galway College and the University of Edinburgh, where he obtained the diplomas L.R.C.P., L.R.C.S.Ed., and L.R.F.P.S.Glas. in 1904, and graduated M.B., Ch.B.Ed. in 1907. He had early devoted himself to the problems of mental disease, and held the posts of assistant medical officer at Horton Asylum and senior assistant medical officer at the Inverness and District Asylum. In 1912 he was appointed resident medical superintendent of the Mullingar Mental Hospital, West Meath, and thenceforward until his untimely death from typhoid fever had striven whole-heartedly to overcome the difficulty of inadequate accommodation at that institution. Eventually, little more than a year ago, a really substantial step was taken in this direction, when the erection of the new buildings was begun. Always progressive in his clinical outlook, Dr. Gavin welcomed the new discoveries which led to greater therapeutic possibilities, and he was chairman of a division of the Royal Medico-Psychological Association. In addition to his administrative gifts and scientific acumen, Dr. Gavin's inspiring personality and warm-hearted devotion to the interests of his patients and his colleagues made him an outstanding figure in the central Irish counties, and there was a most impressive demonstration of regret and appreciation at his funeral.

Universities and Colleges

UNIVERSITY OF OXFORD

At a congregation held on October 22nd it was resolved to give Lord Nuffield's name to the new institute for medical research, for which he has presented the site of the Radcliffe Observatory and a sum of £16,000. Sir Farquhar Buzzard, Regius Professor of Medicine, announced that the interior of the famous building was now well on its way to being re-adapted for its work, which will be started early in 1936. It will be known as the Nuffield Institute for Medical Research.

On October 23rd Professor John Mellanby, M.D., was appointed to the Waynflete Chair of Physiology, to hold office from January 1st, 1936.

UNIVERSITY OF LONDON

At a meeting of the Senate held on October 23rd, with the Vice-Chancellor, Mr. H. L. Eason, in the chair, the title of Emeritus Professor of Bacteriology in the University was conferred on Dr. J. W. H. Eyre.

UNIVERSITY OF READING

At a congregation to be held on December 2nd, on the occasion of the installation of Sir Austen Chamberlain as Chancellor of the University, the honorary degree of D.Sc. will be conferred upon Sir Frederick Gowland Hopkins, P.R.S., F.R.C.P.

NATIONAL UNIVERSITY OF IRELAND

The Senate, at its meeting on October 24th, with the Chancellor of the University, Mr. Éamon de Valera, in the chair, considered the reports of the examiners upon the autumn examinations, 1935, and awarded passes, honours, etc., in connexion therewith, including the following: *Travelling Studentship in Physiology*, Dr. D. K. O'Donovan (University College); *Dr. Henry Hutchinson Stewart Medical Scholarships* (in Anatomy and Physiology), Eric A. Scher (University College, Cork).

The Senate decided that a special first University examination in medicine should be held in March, 1936, for those students who had already completed all lectures therefor in June, 1935; and that the Dr. Henry Hutchinson Stewart scholarships in medicine and mental and nervous diseases should be offered for competition in 1936.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Lectures

The Bradshaw Lecture on "Peptic Ulcer" will be delivered by Dr. Daniel T. Davies on November 5th; the FitzPatrick Lectures on "The History of the Acute Exanthemata" by Dr. J. D. Rolleston on November 7th and 12th; and the Lloyd Roberts Lecture on "The Roman Orient and the Far East" by Dr. C. G. Seligman on November 14th. All the lectures will be delivered at the College, Pall Mall East, S.W., at 5 p.m., and any members of the medical profession will be admitted on presentation of card.

CONJOINT BOARD IN SCOTLAND

The following candidates have been approved at the examination indicated:

Diploma of L.R.C.P.Ed., L.R.C.S.Ed., L.R.F.P. and S.Glas.—M. R. Schleifer, S. H. Harrison, M. B. Spiegel, I. J. G. Mowat, J. Freeman, H. Farber, L. Schmulian, J. Hart, M. W. U. Alwi, J. Orr, S. J. Lederman, G. Boyd, T. R. Murphy, Ruth Schurer, C. S. Parker, H. Henderson, H. T. Rachlin, D. H. Abbott, Marta Adolfsson, L. Landman, D. Simon, M. S. Hendriks, R. O. Walker, P. S. Gorlin, G. B. Shirlaw, Sarah L. Mulholland, O. Moses, W. Straus, C. J. Greenberg, A. E. Thompson, W. F. M. Unger, F. P. Perera, O. W. Nordesjo, D. S. Abevagunawardene, J. Jamieson, A. Berkow, T. Miller, J. E. Heller, H. Levy, K. Melzer, R. Coff, H. G. Garas, Frances Hunter, S. Rajendram, Beate Isserlin, S. Maranov, Ferenc Kellermann, M. J. Philip.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

Surgery.—C. N. Chowdary, P. D. Lynch, W. J. Pinto, M. Q. H. Siddiki, G. W. Van Mentz, G. M. Williams.

Medicine.—R. H. Bembridge, A. Morgan.

Forensic Medicine.—R. H. Bembridge, E. R. Jones, A. Morgan, G. M. Williams.

Midwifery.—H. Burrows, E. M. Craggs, F. J. H. D. de Marigny, M. G. H. Jones, J. R. Rocyn-Jones, M. Q. H. Siddiki, H. L. W. Sixsmith, R. L. Walmsley, C. W. Williams.

The diploma of the Society has been granted to C. N. Chowdary, E. M. Craggs, A. Morgan, and W. J. Pinto.

Medical Notes in Parliament

[From our Parliamentary Correspondent]

Parliament was prorogued and dissolved on October 25th. The Lord Chancellor read a speech from the Throne, which, in reviewing the work of the past session, referred to the provision made for safeguarding insured persons against the loss of certain of their health insurance rights by reason of unemployment; also to a Bill providing for better housing in Scotland and amendment of legislation relating to the Educational Endowments Commissioners (Scotland). No additional Bills received Royal Assent on October 25th.

Replying to Sir Ian Fraser on October 22nd Mr. Robert Hudson said that in the case of men entering hospital when in receipt of benefit or assistance under the Unemployment Acts, but not eligible for the standard benefit, the Ministry intended to pay a supplementary grant, in addition to pension. This grant would, within the limits of the Statutory Warrant allowances, make up the man's income from these sources to what it would otherwise be had he not entered hospital, due attention being paid to reduced family expenditure by reason of the patient's maintenance in hospital and for any health benefit which the patient might receive in lieu of his unemployment benefit.

Mr. Robert Hudson announced on October 24th that the Ministry of Pensions and Ministry of Health had arranged that pensioners who were in doubt as to their position in health insurance would be invited to communicate full particulars of their cases to the chief area officers of the Pensions Department, who would place them before the Ministry of Health. Special notices were being sent out, and, in addition, instructions would be given to each pensioner in his pension book.

Workmen's Compensation: Personnel of Inquiry Committee

Captain Euan Wallace announced on October 24th the constitution of a committee to inquire into the position of medical referees, miners' nystagmus, the settlement of claims by lump sums, and other matters under the Workmen's Compensation Act. The members of the committee include Dr. J. C. Bridge (Senior Medical Inspector of Factories) and Dr. J. Gilmour (Regional Medical Officer, Department of Health for Scotland).

Accident Incapacity: Inquiry Committee

Mr. Geoffrey Peto asked on October 24th whether the Home Office and other Departments concerned would investigate the restoration of the working capacity of those injured by accidents. Captain Euan Wallace answered that the Home Secretary and the Minister of Health had decided to appoint an Interdepartmental Committee to inquire into the arrangements at present in operation with a view to the restoration of the working capacity of persons injured by accidents, and to report as to what improvements or developments were desirable, and what steps were expedient to give effect thereto, regard being had to the recommendations made in the report issued by the British Medical Association in February, 1935, on "Fractures." The members of the committee were not announced.

Unemployment and Title to Maternity Benefit

Sir Kingsley Wood told the House of Commons on October 24th that cases had arisen in which title to maternity benefit had been lost by reason of prolonged unemployment, but in the National Health Insurance and Contributory Pensions Act of 1935 provision was made under which the title to maternity benefit would no longer cease with the expiration of the free insurance period. It would be retained so long as insurance continued on proof of prolonged un-

employment. Further, the provision in the Act under which arrears due to unemployment were in future to be completely excused would prevent any reduction of maternity benefit by reason of unemployment.

Electric Welding Hazard.—Miss IRENE WARD asked, on October 24th, whether consideration had been given to the effect of electric welding on the health of the workers engaged. Captain WALLACE, in reply, referred to Number 18 of the shipbuilding regulations under the Factory Acts, requiring adequate ventilation, and to the Factory Department Memorandum (Form 329) on Electric Arc Welding. Miss WARD then asked if Captain Wallace knew that in a recent issue of the *British Medical Journal* medical authorities stated it to be doubtful whether the regulations mentioned would meet the difficulties arising from this process. No answer was returned.

Doctors in Palestine.—In an answer to Mr. Wedgwood, on October 22nd, Mr. MALCOLM MACDONALD announced that last January a draft ordinance concerning the limitation of doctors in Palestine was approved by the British Government, subject to suggestions for minor amendments. He knew of no similar legislation in operation in any British Colony or Dominion.

Institutional Treatment of Lunacy in African Colonies.—Replying to a question by Sir Arnold Wilson, on October 22nd, about the treatment of lunacy in African colonies, Mr. MALCOLM MACDONALD said that in Tanganyika Territory a suspected lunatic might be detained in a prison for purposes of medical observation for a period not exceeding thirty days. In Kenya certain prisons were scheduled as lunatic asylums. Every effort was made to ensure the complete segregation of the lunatic from the criminal population of the prison. Expenditure had recently been authorized for enlarging the accommodation at the mental hospital at Mathari. In Nigeria lunatics for whom there was not room in the two existing asylums were detained in the prisons. They were kept apart from the criminal, and wore special clothing. The undesirability of associating lunatics with prisoners was fully recognized, but the many demands on the Government's resources had hitherto impeded the provision of further asylums. Mr. MacDonald added that he was looking into the matter.

Notes in Brief

Convictions for drunkenness in England and Wales during 1934 numbered 39,748.

All local authorities in Wales responsible for maternity services have replied to Circular 1433 (Wales) of the Ministry of Health.

The Services

HONORARY SURGEON TO THE KING

Lieut.-Colonel A. J. H. Russell, C.B.E., I.M.S., to be Brevet Colonel and Honorary Surgeon to the King, vice Colonel C. A. Gill, I.M.S., retired pay.

DEATHS IN THE SERVICES

Lieut.-Colonel Ralph Henry Maddox, C.I.E., Bengal Medical Service (ret.), died at Hove on October 18th, aged 71. He was born on June 27th, 1864, the son of the Rev. R. H. Maddox, B.D., rector of Kirkheaton, Yorkshire. He was educated at Haileybury and at Edinburgh University, where he graduated M.B., C.M., with honours, in 1887. He also took the M.R.C.S. in the same year, and subsequently the D.T.M. at Liverpool, in 1907. After filling the posts of resident surgeon at the Royal Maternity Hospital, Edinburgh, and assistant medical officer at Camberwell House Asylum, he entered the I.M.S. as surgeon lieutenant on July 27th, 1892. He became lieutenant-colonel after twenty years' service, and retired on July 27th, 1922. He served on the North-West Frontier of India in the Waziristan campaign of 1894–5 (medal and clasp); in the Sudan campaign of 1896, in the Dongola expedition (medal and Khedive's medal); in the Tirah campaign on the North-West Frontier in 1897–8, when he was present in the action of the Sampagha Pass (medal with clasp); and in the war of 1914–18, when he was mentioned in dispatches in the *London Gazette* of August 15th, 1917, August 27th, 1918, and June 5th, 1919. He received the Kaisar-i-Hind medal (second class) on July 27th, 1902; and the C.I.E., for his war services, on June 3rd, 1919. In the intervals between his war services he served as a civil surgeon, first in Bengal, and afterwards in Bihar and Orissa. He married Lucy Lilian, daughter of Mr. Walter Wheeler of Belfast.

Major Behram Pestonji Sabawala, late Indian Medical Service, died at Bombay on July 28th, aged 50. He was born on March 20th, 1885, and was educated at the Grant Medical College, Bombay, and at the London Hospital. He took the diploma of L.M.S.Bombay in 1908, and subsequently the M.R.C.S., L.R.C.P.Lond. in 1910, and the F.R.C.S.Ed. in 1912. When the war began in 1914 he took a temporary commission in the I.M.S. and served in Mesopotamia, and later in the Indian Hospital at Brighton. At the end of the war he resigned his commission in the I.M.S., but took one in the Indian Army Reserve of Officers on November 30th, 1922. He was then appointed honorary surgeon to the Jamsetjee Jeejeebhoy Hospital, Bombay, and for some time held the professorship of anatomy in the Grant Medical College, Bombay. He also became a Fellow of the College of Physicians and Surgeons, Bombay, in 1920. Subsequently he took the appointment of chief medical officer of the Dhrangadhra State in Kathiawar, and settled at Rajkot, where he had a large practice. He had been a member of the Bombay Branch of the British Medical Association since 1912. He leaves a widow and three children.

Medical News

The Buckston Browne annual dinner of Fellows and Members of the Royal College of Surgeons of England will be held in the College, Lincoln's Inn Fields, on Thursday, November 14th, at 8 p.m.

The third annual dinner of the Voluntary Blood Donors' Association will be held at the Empire Restaurant, Victoria, S.W., on Thursday, November 14th, at 7.30 p.m., with Sir James Walton in the chair.

The annual dinner of the Leeds Medical School will be held at the Metropole Hotel, Leeds, on Thursday, November 21st, at 7.30 p.m., when Mr. E. R. Flint will preside.

A reception will be held at the Royal Society of Medicine on Wednesday, November 20th, at 8.30 p.m., when Fellows and their friends will be received in the library by the President and Mrs. Robert Hutchison. At 9.15 p.m. an address will be given by Sir Richard Paget on "How and Why We Speak." Admission will be by ticket only. Applications should be addressed to the secretary, and will be dealt with in strict rotation.

Dr. M. T. Morgan will deliver the Benjamin Ward Richardson Lecture at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., on Tuesday, November 12th, at 5.30 p.m., when his subject will be "Some Details of the System of Health Inspection of Meat and Meat Products destined for Export in the Great Abattoirs of South America." The chair will be taken by Sir Arthur Newsholme.

The eleventh annual Norman Lockyer Lecture—established by the British Science Guild as a means of periodically directing the attention of the public to the influence of science upon human progress—will be given by Sir Josiah Stamp in the Goldsmiths' Hall, Foster Lane, E.C.2, on Wednesday, November 13th, at 4.30 p.m. The subject of the lecture is "The Calculus of Plenty." Application for tickets should reach 6, John Street, Adelphi, W.C.2, not later than November 6th.

The following meetings are included in the 1935–6 syllabus of the London Section of the Society of Chemical Industry: November 4th (joint meeting with Food Group), Jubilee Memorial Lecture, by Professor I. M. Heilbron, F.R.S.: "Chemical Elixirs of Life—Recent Developments in the Chemistry of Sterols, Lipochromes, and Related Compounds"; December 2nd, Mr. J. Gibson, "Industrial Disinfectants"; March 2nd (joint meeting with London and South-Eastern Counties Section of Institute of Chemistry), Dr. T. A. Henry, "The Chemotherapy of Malaria"; May 4th, annual general meeting, followed by Dr. A. Parker, "Water Pollution Research." All the meetings will be held at Burlington House, Piccadilly, W., at 8 p.m.

The Bishop of Gloucester will unveil a memorial to Miss M. E. Ray, the late Sister Matron of King's College Hospital, when he visits the hospital to-day, Friday, November 1st, for the service at 5.30 p.m. Friends of the hospital, especially former members of the medical staff, are cordially invited. A list of benefactors will be read by Sir Charlton Briscoe, Bt.

A joint meeting of the Sections of Epidemiology and State Medicine and Tropical Diseases and Parasitology of the Royal Society of Medicine will be held at 1, Wimpole Street, W., on Friday, November 15th, at 8.15 p.m., when Sir Weldon Dalrymple-Champneys will read a joint paper by himself and Dr. Rupert Briercliffe, on "The Malaria Epidemic in Ceylon, 1934–5."

The British Institute of Philosophy announces that an address entitled "The Present Need of a Philosophy" will be given by Mr. C. E. M. Joad on Tuesday, November 12th, at 8.15 p.m., at University College, Gower Street. Cards of admission can be obtained from the director of studies at University Hall, 14, Gordon Square, W.C.1.

A series of post-graduate demonstrations will be given at the Manchester Hospital for Consumption and Diseases of the Ear, Nose, Throat, and Chest, Hardman Street, Deansgate, Manchester, on Wednesdays, at 4.30 p.m., from November 6th to December 11th, both dates inclusive. All graduates and students of medicine are invited to attend. Details will be published weekly in the diary column of the *Supplement*.

A post-graduate course in the technique of gastric surgery will be held at Barcelona under the supervision of Dr. M. Conachan, professor of surgical pathology, from December 10th to 20th. The fee is 50 pesetas. Further information can be obtained from the Hospital de la Santa Cruz, Barcelona.

The programme for the autumn session of the South-West London Post-Graduate Association opened on October 30th. Further meetings have been arranged as follows: November 6th, Dr. C. E. Lakin, demonstration of medical cases; November 13th, Dr. G. Braun, Dr. Lettermann's foot-corrective system, a biological method; November 20th, Dr. J. W. McNee, differential diagnosis of jaundice; November 27th, Dr. Russell J. Reynolds, cineradiography; December 4th, visit to radiotherapeutic department of the Lambeth Hospital, Brook Street, S.E.; December 11th, Mr. V. Zachary Cope, demonstration of surgical cases. All the meetings will be held at St. James Hospital, Ouseley Road, Balham, S.W., at 4 p.m., except the visit on December 4th, which will be at 3 p.m.

The Fellowship of Medicine (1, Wimpole Street, W.) announces the following courses: urology, at St. Peter's Hospital, November 4th to 16th; medicine, surgery, and gynaecology, at Royal Waterloo Hospital, November 11th to 23rd; proctology, at St. Mark's Hospital, November 25th to 30th; venereal disease, at London Lock Hospital, November 18th to December 14th; infants' diseases, at Infants Hospital, November 25th to December 7th; dermatology, at Hospital for Diseases of the Skin, November 25th to December 7th; gynaecology, at Samaritan Free Hospital for Women, November 16th and 17th; chest diseases, at Brompton Hospital, November 30th and December 1st. An evening clinical and pathological course for M.R.C.P. candidates will be held at National Temperance Hospital on Tuesday and Thursday evenings at 8 p.m. from November 26th to December 12th. A debate on maternal mortality will be held at the Royal Society of Medicine on November 13th at 8.30 p.m. Dame Janet Campbell and Professor J. Munro Kerr will propose the motion, "That the present rate of maternal mortality is a discredit to modern obstetrics," and Professor Gilbert Strachan and Professor Daniel Dougal will oppose it. The debate will then be thrown open for discussion. All members of the medical profession will be welcome at the debate, for which no admission tickets are necessary.

A refresher course for general practitioners will be held at the British Post-Graduate Medical School, Ducane Road, Shepherd's Bush, W., from Monday, November 18th, to Saturday, November 30th (except November 24th), beginning at 10.30 a.m. each day.

Two £100 scholarships are again being offered at Port Regis Preparatory School to sons of medical men. The examination is being held in March, 1936, and candidates must be under 9 years of age at the time of competing. Applications for the scholarships should be addressed to the Headmaster, Port Regis, Broadstairs, not later than February 20th, 1936. The school is situated in the healthiest and most bracing position in Broadstairs and Kingsgate-on-Sea, and has an excellent record.

A medical and dental clinic, where the girls are to be regularly examined whether they are in good health or not, combined with a miniature isolation hospital for emergencies, was opened by Major-General W. P. MacArthur, Commandant of the Royal Army Medical College, Millbank, on October 26th at Penrhos College, Colwyn Bay. Professor Warrington Yorke of the Liverpool School of Tropical Medicine and chairman of the Board of Governors presided.

A play entitled *The Mayor Chooses a Wife*, by A. V. Williams and Dr. Ernest H. M. Milligan, will be broadcast from the North Regional Station (Manchester) on Friday evening, November 8th, on the eve of the mayoral elections throughout the country. Readers may recall that two plays by Dr. Milligan, who is honorary secretary of the Glossop Division of the British Medical Association, were broadcast in June, 1933 (*The Ballad Singer*), and September, 1934 (*Muggleston on the Map*), the latter in collaboration with Mr. Williams.

The Nobel Prize for Medicine has been awarded to Dr. Hans Spemann, professor of zoology at the University of Freiburg and well known for his research work in experimental physiology. The award is made in recognition of his discoveries in connexion with embryonic development.

At a special court of governors held in the board room of King's College Hospital on October 22nd H.R.H. the Duke of York was elected president of the hospital in the place of H.R.H. the Duke of Connaught, who has resigned after thirty-two years' tenure of that office.

The date of the third International Congress on Malaria has been postponed until the spring of 1936. The exact date and programme will be published later. Further information can be obtained from the president, Professor G. Pittaluga, director of the National Institute of Health, Calle de Recoletos 20, Madrid.

The King has approved the appointment of Dr. James Abbey Henderson to be a Nominated Member of the Legislative Council of the Colony of British Guiana.

The Manchester Babies' Hospital at Burnage, which celebrated its twenty-first birthday this year, has received permission from H.R.H. the Duchess of York to change its name to the Duchess of York Hospital for Babies in Manchester.

The illustrated supplement of *Progrès Médical* for October 5th is devoted to the alienist and nosologist Philippe Pinel (1745–1826).

Dr. Georges Duhamel, the physician, novelist, and essayist, has been appointed editor of the *Mercure de France*.

Owing to his advanced age Professor von Eiselberg has resigned his presidency of the International Congress of Surgery to be held at Cairo in December, and has been succeeded by Dr. J. Schoemaker of The Hague.

Dr. Maurice Villaret, professor of therapeutical hydrology and climatology, and Dr. E. Jeannin, professor of obstetrics in the Paris Faculty of Medicine, have recently been elected members of the Académie de Médecine.

The last census in Italy showed that the average number of children in a family is 3.9. The number is higher among field labourers (4.6) and professional classes (4.7), and lower among officials and Army officers (2.4).

Dr. Gustav Gärtner, professor of general pathology at Vienna, celebrated his eightieth birthday on September 28th.

An outbreak of 150 cases of typhoid fever, caused by impure water, has recently occurred at Stamboul.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone, unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBER** of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, five lines).

The **TELEGRAPHIC ADDRESSES** are
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Teneriffe

"B. V. C." asks for information about Teneriffe as a residence for patients with rheumatoid arthritis, with particular reference to rainfall, climate in spring, cost of living, English residents, and clothing.

⁂ We are indebted to Dr. Fortescue Fox for the following reply: There are several points in the climate of Teneriffe, especially in the winter and spring, which should make it favourable for rheumatoid arthritis—the remarkably even warmth, which in winter is nearly that of an English summer, the very moderate humidity (in comparison with Madeira, for example), which is unusual in an island climate, the low rainfall, dry soil, and abundant sunshine. Chilly persons (*peno-thermal*) who "feel the cold" in England should do well at Teneriffe, excepting, always, those of a stout, congestive habit with signs of metabolic disorder, for whom all marine climates are as a rule inadvisable. Thus it is reported that "intestinal complications" have been observed to be increased at Teneriffe. In all cases of rheumatism it would be well to choose an inland location, at an elevation of not less than a hundred feet, as in the Vale of Orotava, and to go to one of the higher places in the summer. Clothing should be light and woollen. There is a small English colony, but no English doctor. Hotels and pensions from 10s. to 15s. per day.

Treatment of Tinnitus

"H. H. G." writes: Can anyone suggest a reliable line of treatment for that bugbear in general practice—the "ringing" ear. It is a common clinical entity among middle-aged and elderly spinsters, and my experience is that it persists in spite of all the expensive paraphernalia employed by the aurist and in spite of the use of many drugs. Bromides, luminal, chloretone, nitroglycerin, valerian, have all been failures in my hands. What is the pathology? Is it a neurosis, cardiovascular, or of aural origin? Text-books are particularly vague as regards treatment. One authority suggests ligation of the carotid!

Cardiac Resuscitation

Dr. W. B. PRIMROSE (Glasgow) writes in reply to Dr. Leo Delicati (*Journal*, October 19th, p. 769): Chloroform produces these accidents more often than any other inhalational anaesthetic, but ether is not free from difficulties of other kinds. The specialists mentioned by Dr. Delicati for appeal on the causes of heart failure may hold varied and very learned views on the matter, but on several occasions I have found them peculiarly unable to give assistance of any practical value.

Sterilization of Woollen Vests

M.B., F.R.C.S., writes: Will some expert kindly tell me the simplest and best way of killing any staphylococci which get into the material of woollen vests or flannel pyjamas in a patient who has mild staphylococcic infection of the skin? Heat damages woollen fabrics and many disinfectants leave an odour, whilst others are hard to wash out of the material after soaking it in them.

Income Tax

Voluntary Disposition of Income

"L. L." made a deed granting an annuity of such a sum as after deducting income tax would leave £100 a year to his daughter, and has presumably made the payments in accordance with the deed. He lodged a claim for his daughter as a dependent relative and the claim has been refused.

⁂ The claim was correctly refused for 1935–6, because for that year the daughter has a statutory income in excess of £50—that is, £129 0s. 8d. less income tax to £29 0s. 8d. at 4s. 6d. = £100 net. But assuming the daughter has no other income she can claim, after April 5th, 1935, repayment of the £29 0s. 8d. deducted, leaving "L. L." better off than he would be if he had the dependent relative allowance only. (If the daughter is a minor the claim should be made by the parent, as natural guardian.)

LETTERS, NOTES, ETC.

Fever Therapy in Venereal Disease

Dr. G. ARBOUR STEPHENS writes: The annotation in the *Journal* of August 3rd (p. 217) on the effects of fever therapy in gonorrhoeal arthritis interests me greatly because I have on several occasions drawn attention to the excellent results in this disease following the subcutaneous injection of 10 c.cm. of distilled water. This disease is due to an exudatory disturbance which responds satisfactorily to the distilled water. As is well known, distilled water has a high surface tension, which sets up osmotic currents and causes the tissue cells to burst. By this bursting of the cells the natural antigens are set free and improvement sets in rapidly. The temperature is raised to but a slight degree, and one can hardly credit such a small rise with any valuable therapeutic effects. The mere raising of the temperature as such is hardly the cause of improvement in G.P.I.

Performing and Captive Wild Animals

Captain F. MACCUNN (Chief Secretary of the Royal Society for the Prevention of Cruelty to Animals) writes: This society is running a campaign against small zoos and menageries, which it believes are a growing nuisance in this country, not only from the point of view of cruelty, but because they are rarely educative and may be a menace to the health of the community; consequently this society feels that you may be interested in the leaflet dealing briefly with this topic. Petitions are being prepared to be presented to town councils, theatre and cinema managers, and large stores and shops at which wild animals are frequently exhibited. It is therefore hoped that medical officers of health will help us to stamp out this very unnecessary form of amusement or advertisement.

Chemistry of Acetylsalicylic Acid

In the annotation with this heading published last week (p. 792) the name of Dr. Myer Coplans's collaborator should have been given as Professor Arthur G. Green, F.R.S.

The British Drug Houses Ltd. (Graham Street, London, N.1), in association with The Tintometer Ltd. (Milford, Salisbury), have issued a pamphlet on the phosphatase test for the detection of raw or insufficiently heated milk in pasteurized milk with the help of the B.D.H. lovibond limitester. Copies will be sent to any reader who is interested.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 54, 55, 56, 57, and 60 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 and 59.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 204.